THE ARCHITECT & BUILDING NEWS

17 MAY 1956 · VOL 209 · NO. 20 · ONE SHILLING WEEKLY

- **ROYAL ACADEMY II**
- **ADMINISTRATION BUILDING, COLOGNE**

PUBLISHED IN LONDON SINCE 1854

The world's household names use

BRADY
REGD.
SHUTTERS · ROLLING DOORS
The doors commanding the world's largest sale

One of the world's leading petroleum companies, The British American Oil Company Ltd., recently installed a battery of Brady Steel Rolling Doors at their automotive maintenance garage in Toronto, Ontario. Brady Rolling Doors in steel, wood or aluminium — hand or electrically operated — are available to fit any type of opening.

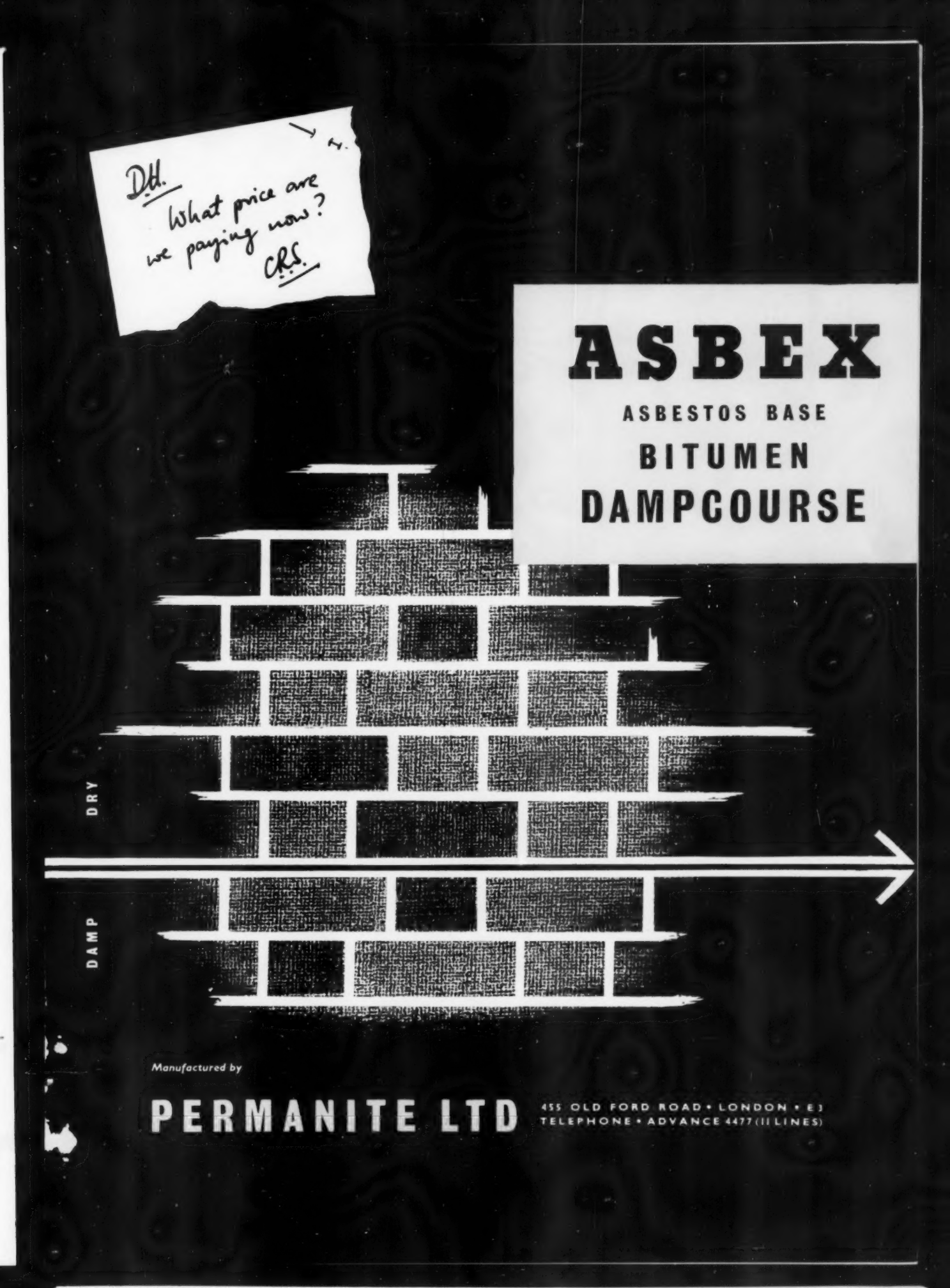
G. BRADY & COMPANY LIMITED MANCHESTER 4

Telephone COLlyhurst 2797/8. *London:* New Islington Works, Park Royal N.W.10 *Birmingham:* Rectory Park Road, Sheldon 26. *Canada:* David C. Orrock & Co. (G. Brady & Co. Canada Ltd.) 4925 De Sorel Street, Montreal, Que. and also at 23 Scott Street, Toronto 1. *U.S.A.:* G. Brady & Co. Ltd., 11 West 42nd St. New York 18 N.Y. *Norway:* An Thorbjörnsen, Kongensgate, 14, Oslo. *Hong Kong:* Blair & Co. Ltd., Windsor House and also at Cape Town.

we shutter the world

MANUFACTURERS OF BRADY HAND AND POWER OPERATED LIFTS

S. & B.


Dtt.
What price are we paying now?
CRS.
ASBEX
ASBESTOS BASE
BITUMEN
DAMPCOURSE
DRY
DAMP
Manufactured by
PERMANITE LTD
455 OLD FORD ROAD • LONDON • E3
TELEPHONE • ADVANCE 4477 (11 LINES)

DOUGLAS FIR PLYWOOD

7 GRADES of Seaboard Douglas fir plywood

Good Two Sides (G2S)
Good One Side Solid Back (G-Solid)
Good One Side (G1S)
Solid Two Sides (Solid 2S)
Solid One Side (Solid 1S)
Sheathing
Underlay Sheathing
Standard Sizes: 8 x 4 ft. (Lengths over 8 feet available on order).
Thicknesses (depending on grade): 1/4, 5/16, 3/8, 1/2, 5/8 and 3/4 inches.

The modern kitchen shown above demonstrates the design possibilities of sanded grades of Douglas fir plywood. One-piece doors reduce labour to a minimum; their smooth, unbroken faces are dust-free, easy to maintain. Builders and shopfitters will note that these properties are equally of value in partitions, counters and in scores of other applications.

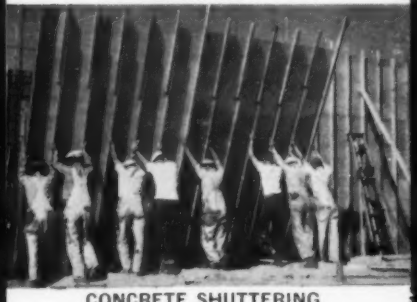
Sanded or unsanded, Seaboard Douglas fir plywood has a grade for every purpose: concrete shuttering, roof decking or sarking, laminated trusses, gussets, floors or bases for floor coverings.

the wood with 1000 uses

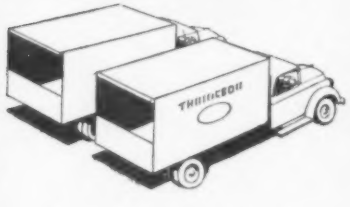
SHOP FITTING

PACKING CASES

BUILT-INS



CONCRETE SHUTTERING



LORRY BODIES, BUSSES

Seaboard Canadian Douglas fir plywood is manufactured with a full phenolic bond, produced with heat and pressure to become an integral part of the panel—stronger than the wood itself—making the plywood dependable outdoors or indoors for literally thousands of purposes, from boats to box beams, panelling to packing cases.

Of special interest to designers, builders and industrialists is the fact that Seaboard offers a grade of Douglas fir plywood for every purpose. No longer must plywood be reluctantly left out of specifications when its amazing properties are needed, yet when "top panelling grades" are too costly. In addition to smooth sanded panels, Seaboard is available in unsanded "utility grades" obtainable only in Douglas fir plywood. These are specifically known as SHEATHING and UNDERLAY SHEATHING, and are purposely engineered for use where both strength and economy are more obviously necessary than a quality finish.

ROOF-DECKING

FLOOR UNDERLAYMENT

PHENOLIC BOND
WATERPROOF
WEATHERPROOF
BOIL TESTED

SEABOARD

CANADIAN DOUGLAS FIR

PLYWOOD

Seaboard Lumber Sales Co. Limited, Seaboard House, Vancouver 1, Canada

N R. M. Morison, Esq.,
1 - 3 Regent Street,
London S.W. 1

Please send me a free copy of the Seaboard Plywood Handbook (L-11) describing your full selection of Douglas fir plywoods.

Name.....

Address.....

.....

UK-56-1-14 (Please print plainly)

'VISTALITE'

"VISTALITE" Aluminium Curtain walling is designed for fixing and glazing from the inside, thus eliminating the need for scaffolding, and also the replacement of broken panes can easily and quickly be effected.

Curtain Walling at Holloway County School Extension

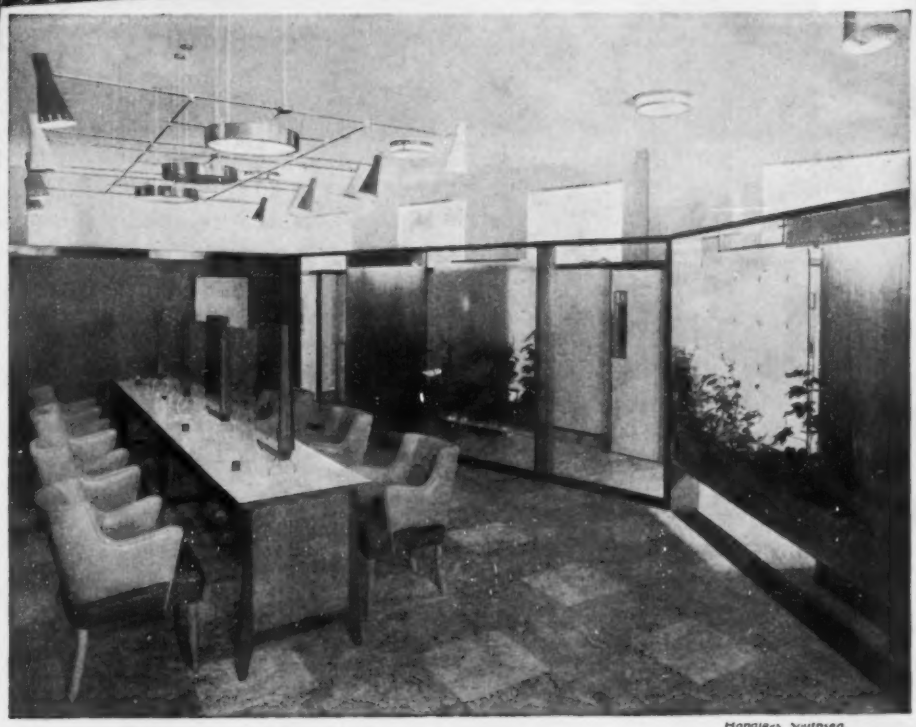
Architect: Dr. J. L. Martin, M.A., Ph.D., F.R.I.B.A., Architect to the London County Council, County Hall, Westminster Bridge, London, S.E.1.

Please write for illustrated leaflet to Group Sales Office

CURTAIN WALLING & PURPOSE MADE WINDOWS

BRITISH STEEL CONSTRUCTIONS GROUP OF COMPANIES

82 Holyhead Road · Wednesbury · Staffordshire · *Telephone: WEDnesbury 1151/2/3*



Mandleys Southsea.
Consulting Engineer - A. W. Jarvis.
Shopfitting By - Henry Serventi Ltd.

A G.E.C. LIGHTING INSTALLATION IS ALWAYS DISTINCTIVE

Subtly blending artistry with technology, the science of lighting as it is practised by G.E.C. designers and engineers is creating exciting new concepts of beauty and efficiency in illumination. The G.E.C. lighting service is available anywhere in the world through every G.E.C. Branch establishment.

THE GENERAL ELECTRIC CO. LTD · MAGNET HOUSE · KINGSWAY · LONDON · W.C.2

B

Expanded Steel —widely used for sixty years

Only Expamet Expanded Steel can claim sixty successful years as a steel sheet reinforcement for concrete. Today, Expanded Steel is widely used for all types of civil and structural engineering—buildings, tanks, reservoirs, swimming baths, sea defences and other reinforced concrete construction work. There is a wide range of standard variations and weights in 'Expamet' Expanded Steel Reinforcement. Our engineers can discuss your problems and prepare designs and estimates.

Reinforcement

DESIGN SERVICE

A complete concrete reinforcement design service is operated by Expamet to help you. Take advantage of it. Briefly, the service includes: 1. Design with economy; 2. Preparation of working drawings; 3. Supply of reinforcements; 4. Delivery on schedule; 5. Technical advice and literature.

BOLT BOXES

Expamet Foundation Bolt Boxes are manufactured from ½" mesh Expanded Metal, which has the property of being able to retain wet concrete. The Boxes are made conical, cylindrical or rectangular, to suit particular requirements, in any reasonable dimensions.

Expamet

EXPANDED METAL PRODUCTS

THE EXPANDED METAL COMPANY LTD

3 Burwood House, Caxton Street, London, S.W.1. Tel. ABBey 7766
P.O. Box 14, Stranton Works, West Hartlepool. Tel. Hartlepools 5531
Also at: Aberdeen · Belfast · Birmingham · Cardiff · Dublin · Exeter
Glasgow · Leeds · Manchester · Peterborough

Architects:
Messrs. Wood Goldstraw & Yorath,
Tunstall,
Stoke-on-Trent.

CERAMIC TILES THE OBVIOUS CHOICE FOR A MODERN STAIRCASE

First impressions are important —

say 'Welcome' in your entrance hall with Ceramic wall and floor tiles.

A good beginning — impressive to the end.

Ceramic

T I L E S

Glazed & Floor Tile Manufacturers' Association • Federation House • Stoke-on-Trent

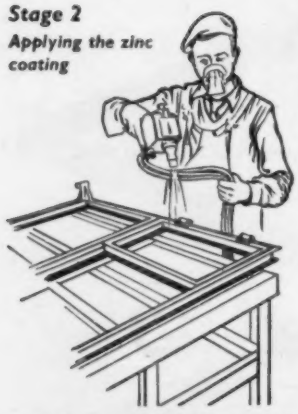
ZINC METALLISATION

—essential protection against R-U-S-T

Let's face it — the enemy of all steel windows is R-U-S-T. But whilst it is generally accepted that a good coating of zinc will give adequate protection, not everyone agrees which is the best method of applying it.

The John Thompson Zinc Metallisation Process is logical, positive, and effective — it cannot fail. It is carried out in three stages. First, the window is shot-blasted at a pressure of 80 lbs. p.s.i. to produce a meticulously clean and slightly roughened surface. Then comes the application of the essential protective zinc coating (99.5% pure) as shown above. Under the flame of the oxy-propane spray gun the whole of the window and its frame, every nook or cranny where moisture can penetrate and collect, receives its heavy overcoat of rust-resistant molten zinc.

Finally, to seal this rustproofed surface, the window is passed through a zinc chromate primer bath and stoved at a controlled temperature of 400°F. Builders should note, therefore, that no additional priming coat is ever necessary with a Beacon Window. After installation it is ready to receive its finishing coats without further expense or delay — often saving as much as £4 on an average house.



Stage 2
Applying the zinc coating

BEACON
METAL WINDOWS

Member of the Metal Window Association

JOHN THOMPSON BEACON WINDOWS LTD · WOLVERHAMPTON

Photo: Courtesy of Messrs. Lewis of Westminster, 95-97 Regent Street, W.1.

Silence

can increase sales!

The price of silence is not great. But silence can be golden, for it can make a shop's sales graph curve the right way. And by silence we mean a lack of background noise — unwanted noise — which can be disturbing to customers and staff.

This is what Acousti-Celotex Tiles do. They reduce noise to a comfortable level—mop it up as blotting-paper does ink. They are inexpensive and easy to install without interrupting normal business. They require no maintenance and can be re-painted repeatedly without impairing their efficiency. Acousti-Celotex Tiles have been installed in shops all over the world. If you have a problem we will be glad to give you expert advice, without obligation.

ACOUSTI-CELOTEX ***SOUND ABSORBING TILES***

ANOTHER CELOTEX CANE FIBRE PRODUCT

★ *Distributors for London, Southern Counties, Wales, the Midlands and Yorkshire*
HORACE W. CULLUM & CO. LIMITED
8-9 Flowers Mews, London, N.19. Tel: ARC 2662
Distributors for Scotland and Northern Counties
WILLIAM BEARDMORE & COMPANY LTD.
Parkhead Steel Works, Glasgow. Tel: Bridgeton 1881

MADE IN GREAT BRITAIN BY CELOTEX LIMITED. N. CIRCULAR RD., STONEBRIDGE PARK, LONDON, N.W.10. TELEPHONE: ELGAR 5717 (10 LINES)

Important Revisions of British Standards for Lead Pipe

Many permissible minimum weights greatly reduced

For a typical low-cost house, the costs of plumbing in Lead can be reduced by

30%

as a result of the new British Standards for Lead pipes to B.S.602 and B.S.1085

Tables incorporating the new standards have been prepared and are available in a revised edition of "CONCISE INFORMATION ON LEAD PIPE" free on request.

LEAD h LASTS

LEAD SHEET AND PIPE COUNCIL

In association with LEAD DEVELOPMENT ASSOCIATION

EAGLE HOUSE · JERMYN STREET · LONDON · SW1

Telegrams: Ukleadman, Piccy, London · Telephone: Whitehall 4175

B.126

The Sapphire '20' Balanced Flue Gas Space Heater is the result of British scientific research and development in the field of gas utilization.

Here is the complete answer to modern requirements of maximum efficiency; warm, fresh air, free from products of combustion, *plus* the highest possible safety factor.

Sapphire "20"

Registered Trade Mark Fully Patented

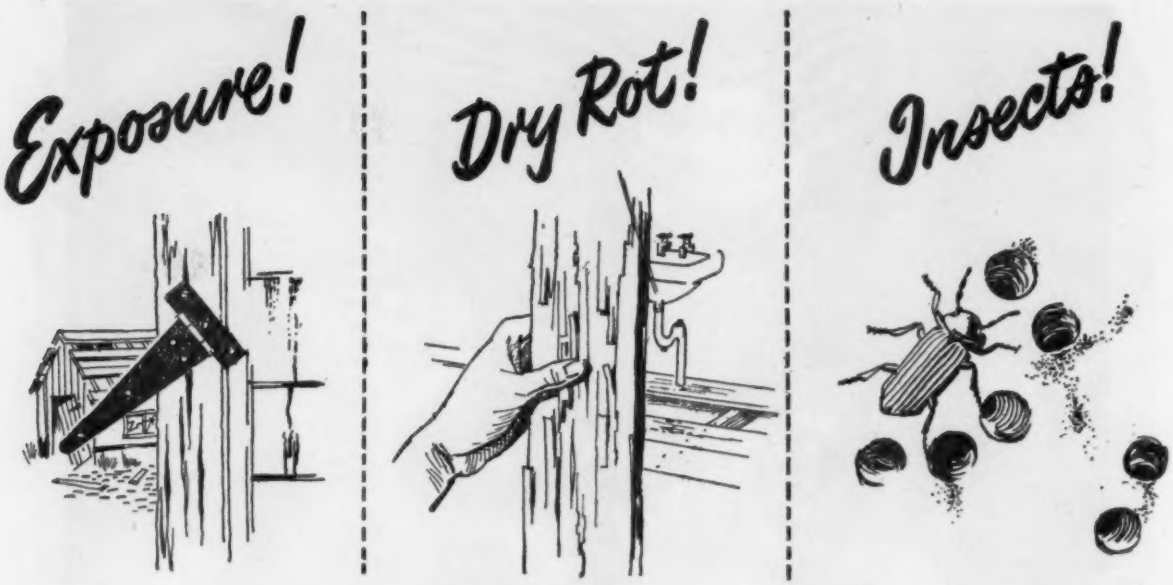
Full data upon request to Sole Licensees:—

COWPER PENFOLD & COMPANY LIMITED

Sole Distributors

WILLIAM SUGG & COMPANY LIMITED

VINCENT WORKS, REGENCY STREET, LONDON, S.W.1 Telephone VICtoria 3211



To keep **wood** safe from all forms of rot and decay, use **PRESOTIM**

Presotim is a decorative wood preservative produced from a series of highly refined coal-tar oils blended to provide extra-deep penetration even when applied by brushing.

Presotim is effective against timber decay whether caused by fungi, exposure, or attack by insects such as Death Watch Beetle and Furniture Beetle.

Presotim is recommended for use both outdoors and indoors. Presotim (exterior quality) is suitable for pavilions, outbuildings, fences, gates, boats, barges, and for roof timbers in houses. Presotim (interior quality) preserves panelling, doors, skirtings, etc., without obscuring the natural beauty of the grain.

Presotim is prepared in a special "neutral" grade which makes it especially effective for old and valuable timbers such as church roofs and panelling, where it protects without altering the characteristic colour of the wood.

Presotim-treated timber can be polished or varnished as required.

For work where a thoroughly reliable, well-tried wood preservative is needed, Presotim offers to architects, builders and others long-term protection against decay at very low cost.

HOW PRESOTIM IS SUPPLIED

Presotim is marketed in small containers, 5, 10, and 40-gallon drums. It is available in neutral grade, three shades of brown and twelve other attractive colours.
Prices from 4/- per gallon in 40-gallon drums.

NCB Manufactured by

THE NATIONAL COAL BOARD

For further details and advice on any technical problem, please write to National Coal Board, By Products, National Provincial Bank Buildings, Docks, Cardiff

Presotim is a Registered Trade Mark

It's in the bag!

GYPSUM PLASTERS CEMENT
CAFFERATA & CO. LTD. NEWARK-ON-TRENT
MURILITE PERLITE FINISH PLASTER
ALWAYS QUOTE THIS NUMBER
IN THE EVENT OF ANY QUERY

"Murilite"

REGD. TRADE MARK

PRE-MIXED PERLITE PLASTER

THE INTRODUCTION OF LIGHT WEIGHT AGGREGATE PLASTERS INTO THIS COUNTRY HAS MADE IT POSSIBLE FOR THE FIRST TIME TO PRODUCE A PRE-MIXED PLASTER, IN WHICH ALL THE INGREDIENTS NECESSARY TO PRODUCE PERFECT PLASTERING ARE PRESENT IN THE ONE BAG.

Pre-mixing ensures correct proportioning of plaster and aggregate.
No worries as to quality of sand.
Consistent setting time.
Greatly increased fire resistance.
Improved thermal insulation.
One third the weight of sanded plasters.
25% saving in weight of metal lath.
Reduction of pattern staining.
Sufficiently resilient to minimise cracking.
Less condensation.
No content harmful to decoration.

GYPSUM PLASTER & CEMENT

CAFFERATA & CO. LTD.

NEWARK • NOTTS. TELE : NEWARK 2060

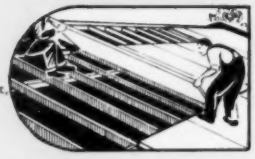
C

PARTITIONING

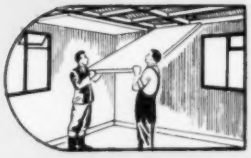
Glazed or unglazed; permanent or temporary

ROOF-DECKING

Under Sheet-metal (Traditional or Patent), Asbestos, Bituminous Felt, etc.



CEILINGS



WALL-LININGS

STRAMIT

— THE TWO-INCH THICK

BUILDING SLABS

— the low-cost dry-construction material, which combines great strength and rigidity with exceptionally good values of thermal insulation, sound absorption and fire resistance

*

THOUSANDS OF TONS ARE USED ANNUALLY IN THE CONSTRUCTION OF FACTORIES, HOSPITALS, SCHOOLS, OFFICES, FLATS AND HOUSES, THROUGHOUT THE COUNTRY

*

STOCK SIZES:
4 ft. wide x 8, 9, 10 & 12 ft. long

SPECIAL SIZES *(made to order)*:
Any width, of 4 ft. or less, and any length, greater or less than 12 ft.

NOW AVAILABLE IN

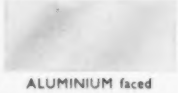
3 QUALITIES AND 3 FINISHES

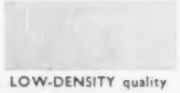
— supplied through leading merchants

STANDARD quality

HARDBOARD faced

ROOFING quality


ALUMINIUM faced


LOW-DENSITY quality

SOMIC faced

For latest details technical data & B.R.S. Reports

FILL IN COUPON AND POST NOW

Please send details of NEW range of STRAMIT Building Slabs:

Name of firm.....

Address.....

.....

For the attention of.....*Status*.....

STRAMIT BOARDS LTD. COWLEY PEACHEY, UXBRIDGE, MIDDLESEX

A.B.N. *Phone:* **West Drayton 3021**

A Service

every architect should know about

You are invited to make the fullest use of our Roofing Advisory Service—we believe it is the most comprehensive in the Roofing Industry.

Our nearest Area Manager can give you further details of this Service, which, of course, is entirely free and without obligation.

It Offers:

1. The services of a highly organized drawing office ready to prepare, in collaboration with yourself, complete working drawings.
2. The assistance of experienced roofing technicians to advise on every detail of modern roof construction.
3. The results of constant research in roof design and construction, and the accumulated knowledge of a large nation-wide Roofing Organization.

BRIGGS

BITUMETAL

ROOF PLUS CEILING PLUS INSULATION

WILLIAM BRIGGS & SONS LIMITED

London, Vauxhall Grove, S.W.8 • *Regd. Office*, **Dundee**

Area Offices and fully equipped depots also at:

ABERDEEN · BELFAST · BRISTOL · DUBLIN · EDINBURGH · GLASGOW · LEICESTER · LIVERPOOL · NORWICH

EVERY ARCHITECT AND BUILDER SHOULD HAVE THIS CATALOGUE!

- DOOR FRAMES
- FRENCH CASEMENTS
- PIVOT HUNG WINDOWS
- WINDOWS OF SPECIAL CHARACTER
- TRADITIONAL WINDOWS AND BAYS
- CONTEMPORARY WINDOWS AND BAYS

Standard 'Modolite' window components may be combined to obtain windows of almost any character and size for all forms of constructional work.

SEND FOR YOUR COPY NOW

H. C. JANES LTD

Joinery Manufacturers

BARTON · BEDFORDSHIRE

Telephone : Hexton 364

LOGICOL FUEL STORAGE UNITS

THE PERFECT ANSWER TO THE FUEL STORAGE PROBLEM

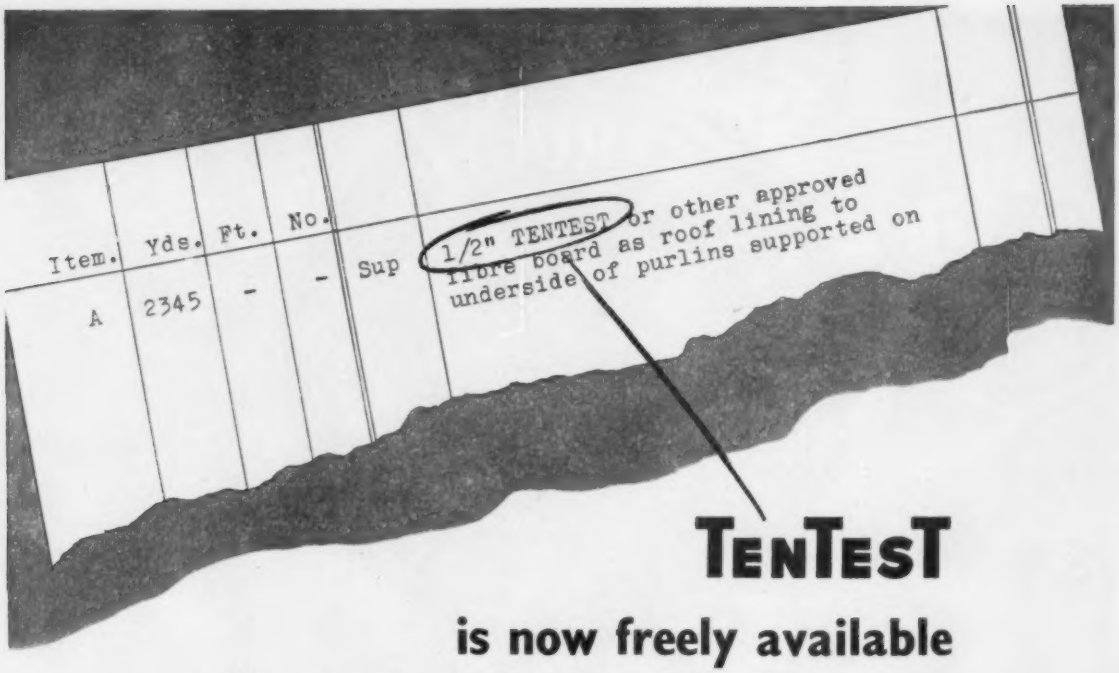
Write for illustrated folder and full details to :

LOGICOL FUEL STORAGE UNITS, TAVU WORKS WATERLOO HUDDERSFIELD Yorkshire

Phone : Huddersfield 174

IDEAL FOR HOUSES AND FLATS

Used by leading authorities in London and throughout the country.



TENTEST

is now freely available from the following Distributors:-

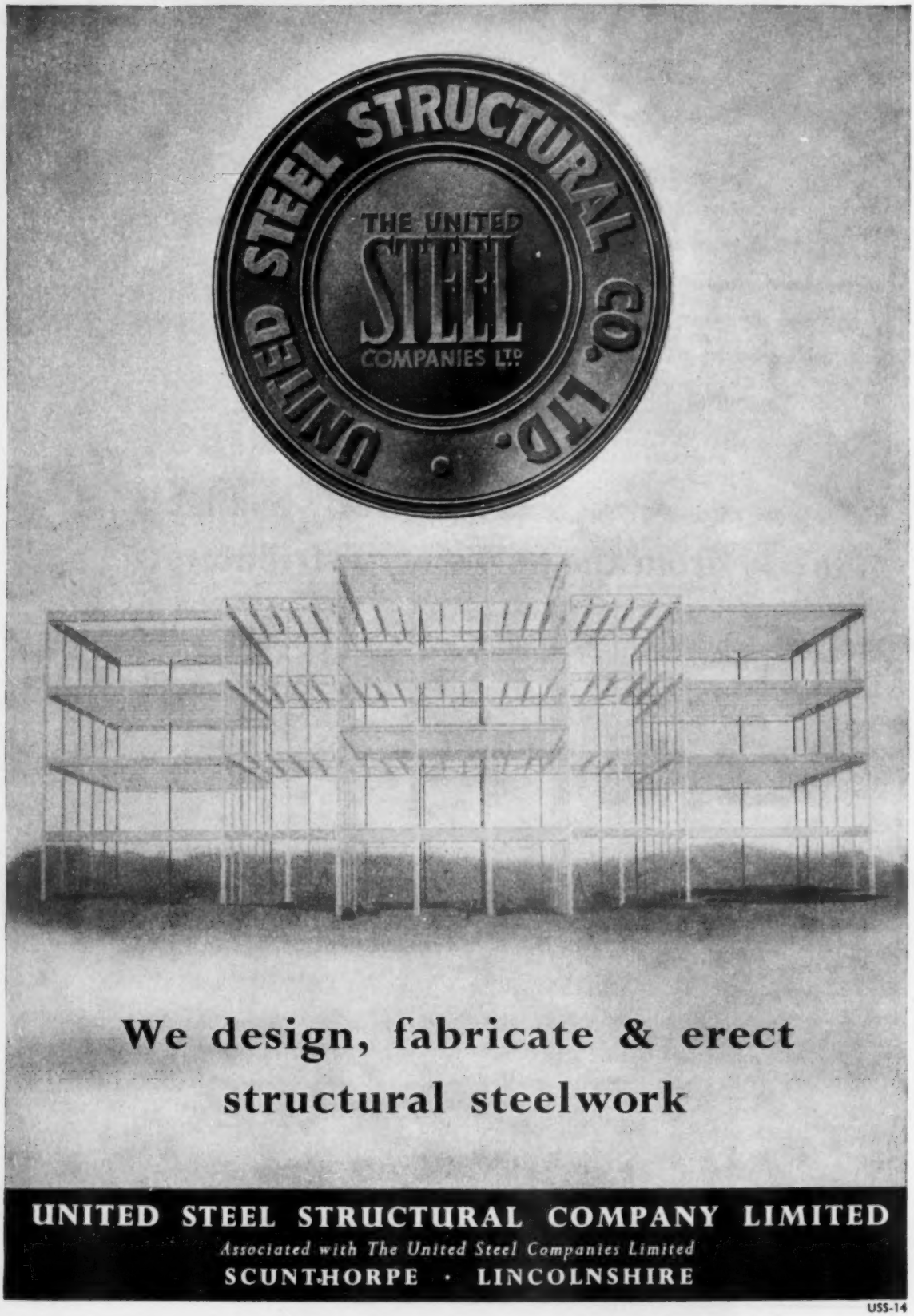
C. F. Anderson & Son Ltd.	London
John Ashworth & Co. (Timber) Ltd.	Manchester
C. Brewer & Sons Ltd.	Eastbourne
Bryce, White & Co. Ltd.	Bristol
N. R. Burnett Ltd.	Hull
James P. Corry Ltd.	Belfast
Dawber, Townsley & Co. Ltd.	Hull
Gabriel, Wade & English Ltd.	Southampton
Horsley Smith & Co. Ltd.	Hull
Horsley Smith & Co. Ltd.	Preston
Horsley Smith & Co. Ltd.	West Hartlepool
Machin & Kingsley Ltd.	Manchester
Machin & Kingsley Ltd.	Birmingham
Alexander MacKenzie & Co. Ltd.	Edinburgh
F. J. Reeve & Fox & Eliott Ltd.	Totnes
Cyril Ridgeon & Son Ltd.	Cambridge
Robinson, David & Co. Ltd.	Cardiff
Stephenson & Co. (Oxford) Ltd.	Oxford
J. T. Sydenham & Co. Ltd.	Bournemouth
Taylor & Low Bros.	Bristol
J. O. Walker & Co. Ltd.	Coventry
J. O. Walker & Co. Ltd.	Leicester
Wintringham & Son Ltd.	Grimsby

TENTEST TRADE MARK

TENTEST FIBRE BOARD COMPANY LTD

Fiboard House, Oakleigh Gardens, Whetstone, N.20

'Phone HILside 8801. 'Grams Fiboard, Norphone, London.



We design, fabricate & erect
structural steelwork

UNITED STEEL STRUCTURAL COMPANY LIMITED
Associated with The United Steel Companies Limited
SCUNTHORPE · LINCOLNSHIRE

USS-14

Photograph by courtesy of The General Electric Co. Ltd.

Aluminium

windows by Braby were supplied and fixed at the Research and Design Building of Messrs. C. A. Parsons and Co. Ltd., Newcastle-upon-Tyne. Braby Aluminium Alloy 'Bar-Form' Partitions were also supplied and fixed throughout this 7 floor high building.

ONE OF THE WIDE RANGE OF
BRABY
PRODUCTS

FREDERICK BRABY & COMPANY LIMITED
ECLIPSE WORKS, PETERSHILL ROAD, GLASGOW, N. TELEPHONE: SPRINGBURN 5151
OTHER FACTORIES AT: London Works, Thames Road, Crayford, Kent. TELEPHONE: Bexleyheath 7777
Havelock Works, Aintree, Liverpool, 10. TELEPHONE: Aintree 1721
Ashton Gate Works, Bristol, 3. TELEPHONE: Bristol 64041. And Falkirk
OTHER OFFICES: 352-364 Euston Road, London, N.W.1 (Head Office). TELEPHONE: EUSton 3456
110 Cannon Street, London, E.C.4 (Export). TELEPHONE: MANsion House 6034
Queen's Buildings, 10 Royal Avenue, Belfast. TELEPHONE: 26509
Palace Street, Plymouth. TELEPHONE: 62261

Member of The Metal Window Association

W
HEN
U WANT
STANDARD
METAL WINDOWS
YOU SHOULD
CONSULT
WILLIAMS
WILLIAMS
T
HEY
HAVE20
LOCALOFF
ICESTOSERVEU
MEMBER OF THE
METAL WINDOW
ASSOCIATION
Trog

FLOODS TO ORDER HERE

This studio tank for flood and water scenes has just been completed by Henry Boot & Sons Ltd. for the J. Arthur Rank Organisation. It will be "behind the scenes" in many future films produced by this famous group.

From unusual contracts like this to more conventional ones such as housing estates, office blocks and reservoirs, factories and hotels . . . with their associated specialist companies, Henry Boot & Sons Ltd. are engaged on major building and civil engineering contracts of all kinds for Government departments, local authorities, engineers and architects.

Henry Boot

HB

AERODROMES · HOUSING ESTATES · ROADS
RAILWAYS · WATER DISTRIBUTION SCHEMES
BUILDING PROJECTS OF EVERY DESCRIPTION

HENRY BOOT & SONS LTD · BANNER CROSS HALL · SHEFFIELD 11

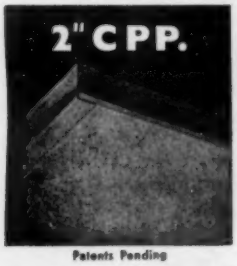
OA/2457

ROOFS revolutionary

EVERY Architect knows that roofs, in most cases the largest single continuous surface in a building, demand the most careful attention. In the past, the Architect chose the roof structure and would frequently have to conceal its unsightly appearance from within. Although this great sound reflecting surface also provided the easiest path for heat losses, *additional* cost made the use of thermal insulators or sound absorbants a luxury.

Not until Thermacoust Limited first introduced 2" Channel Reinforced Fine Grain (2" CRF) Roof Slabs, could roof structure, thermal insulation, sound absorption and fine textured finish be provided by *one* low priced material.
2" CRF has revolutionized roof construction. In one cheap unit all the following qualities are combined :—

- **Low first cost and simplicity of construction.**
- **30 lbs. superload up to 7' 0" span.**
- **Total roof thickness less than 3",**
  saving inches of brickwork.
- **Lightness of weight (7 lbs./sq. ft.),**
  saving tons of supporting structure.
- **Thermal insulation (U—0.23 BTh.U),**
  saving in fuel and size of heating installation.
- **Fine textured finish needing little decoration.**
- **Sound absorption (0.85 at 500 cps.).**
- ★ **Availability ex stock in large quantities.**



Patents Pending

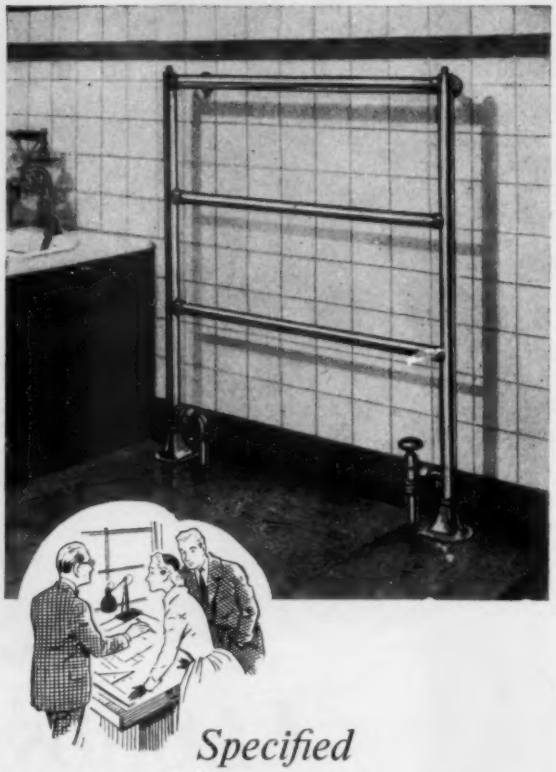
And now we offer, where no sound absorption is required the 2" Channel Reinforced Preplastered Thermacoust (2" CPP) with the following *additional* advantages.

- **Smooth finish.**
- **Highest possible light reflection.**
- **Preformed plaster in its strongest form.**

Thermacoust OF COURSE!

T.21

THERMACOUST LTD., 39 Victoria Street, London, S.W.1. (ABBey 2738)



Specified for the best bathrooms

THE LEDA

HOT WATER TOWEL RAIL

A bathroom fitted with a 'Leda' hot water towel rail always wins approval—for its owner, for its designer and for its builder. This rail gives the bathroom a luxurious look, and the luxurious feeling that comes from constant dry, well-aired towels and constant warmth. The 'Leda' both in design and specification is undoubtedly the finest hot water towel rail on the market.

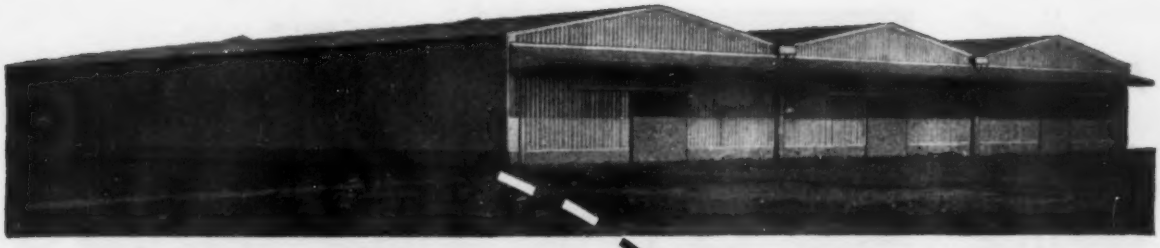
- *Patented method of assembly which ensures leakproof joints.*
- *Two air release valves operated by a coin—no keys to lose.*
- *High standard chromium plating on nickel.*
- *Available in two and three rail models to suit every bathroom.*
- *Individually tested at 120 lb. per square inch air pressure in hot water.*

See the Leda at the Building Centre, Store Street, London, W.C.1, or write for descriptive leaflet to:—

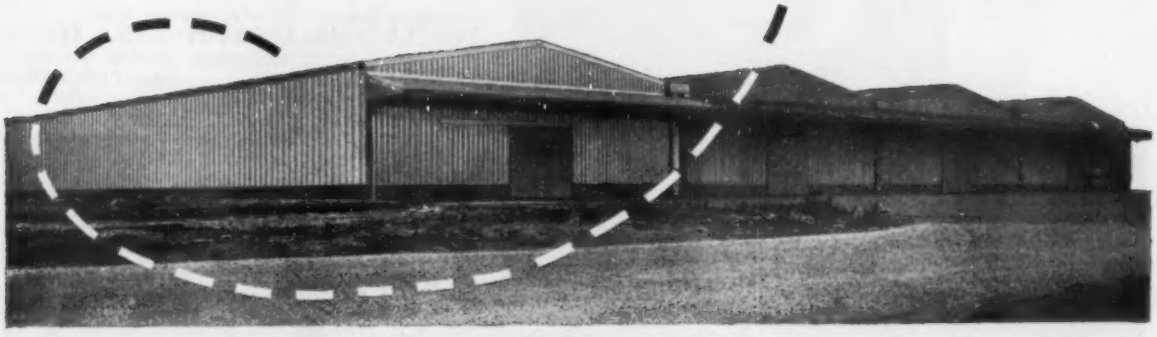
W. C. YOUNGMAN LIMITED

Makers of LEDA Matched Bathroom Accessories.

MANOR ROYAL, CRAWLEY, SUSSEX Telephone: CRAWLEY 1234 (5 lines)



'KYNALOK' cuts the cost



The use of 'Kynalok' Secret-fix cladding made the addition of a fourth bay to this industrial building a simple and economical proposition.

An interesting feature of the extension was the transfer of an existing wall from the third to the fourth bay.

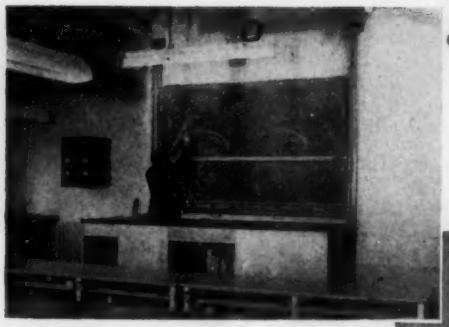
KSF aluminium alloy cladding needs no bolt holes. That was why no time was lost on the tedious task of "matching up". Why, too, all the demounted material could be used again.

'KYNALOK' *Secret fix* cladding

IMPERIAL CHEMICAL INDUSTRIES LIMITED, LONDON, S.W.1

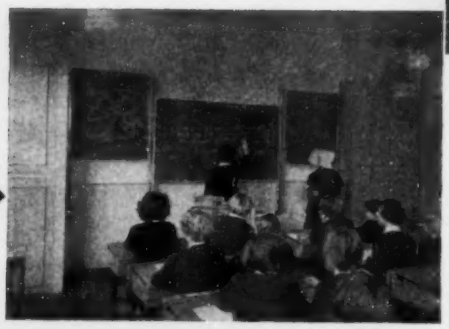
M426

First Class Education needs First Class Equipment . . . .



Hinckley College of Further Education

The Mount School York



St. Gilda Convent School Yeovil

install

Tabula Chalkboards

Descriptive Brochure will be supplied on request

TABULA CHALKBOARDS LTD. YEOVIL

WEST HENDFORD · YEOVIL · SOMERSET

Phone YEOVIL 2231/2

BURN BROS

(LONDON) LIMITED

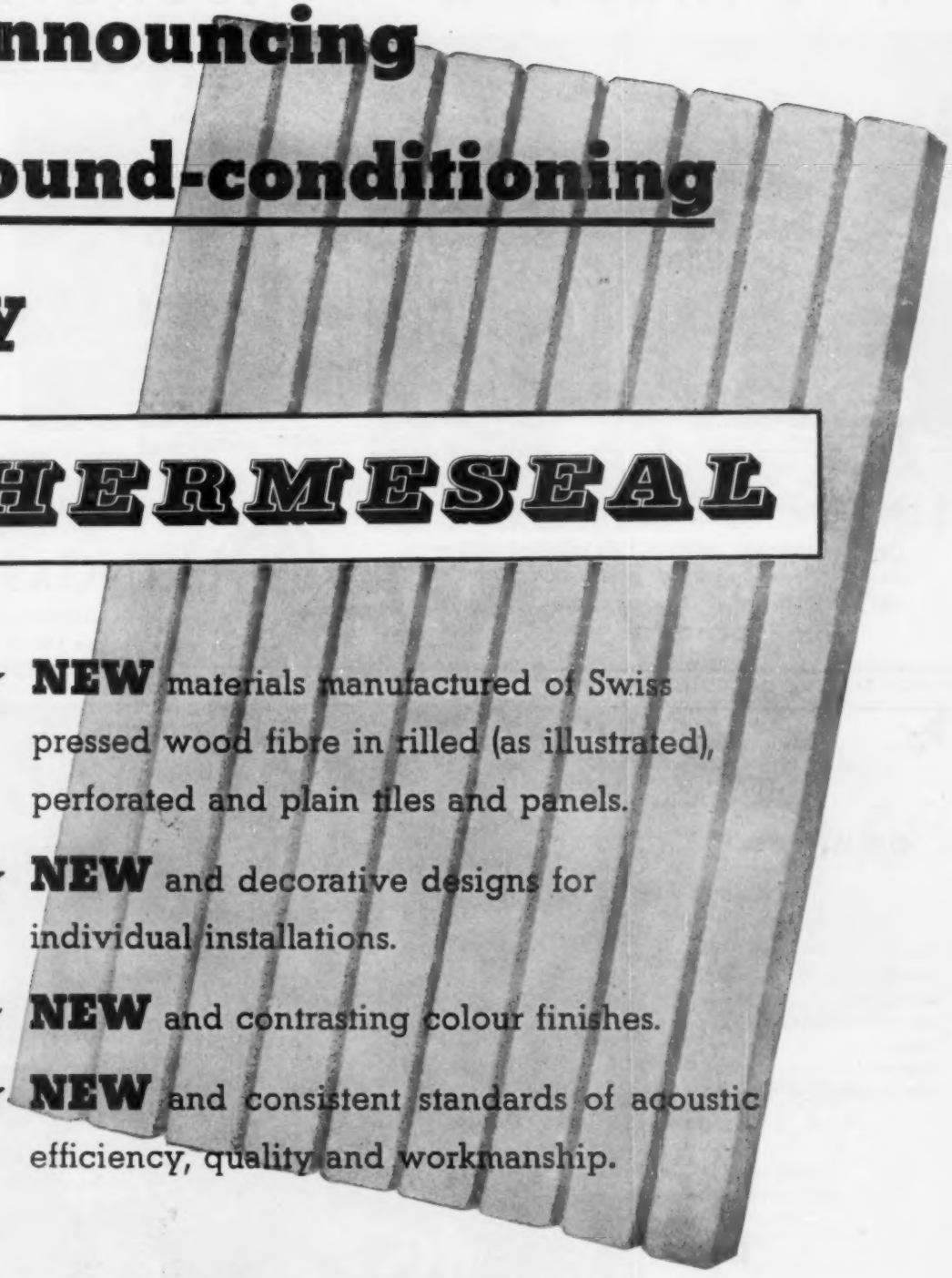
Cast Iron pipes & fittings

We design and supply, for home and abroad, installations for plumbing, drainage, and sewage pumping and disposal plants. Consultation before plans are settled can reduce costs and avoid delays. Large stocks, covering a wide range, support this important service with good deliveries. Please ask for our catalogue.

6 STAMFORD STREET, LONDON, S.E.1. Tel: WAT 5261 • and WEARSIDE WORKS, LOWER BRISTOL ROAD, BATH.

Announcing Sound-conditioning by

HERMESEAL



★ **NEW** materials manufactured of Swiss pressed wood fibre in rilled (as illustrated), perforated and plain tiles and panels.

★ **NEW** and decorative designs for individual installations.

★ **NEW** and contrasting colour finishes.

★ **NEW** and consistent standards of acoustic efficiency, quality and workmanship.

Surveys, estimates, designs and specifications without obligation.

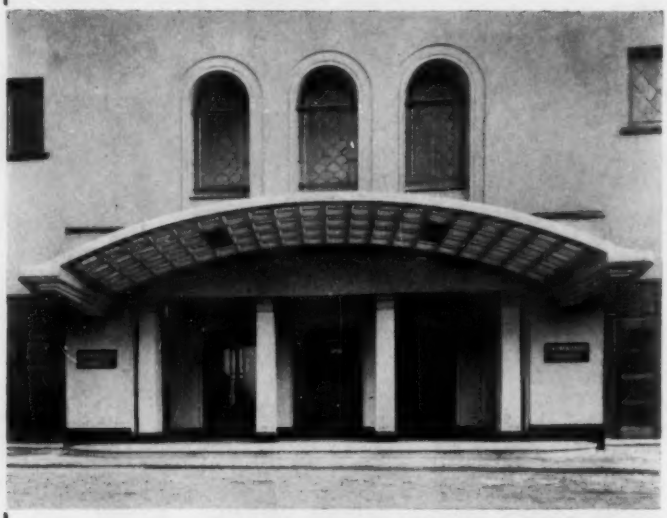
Direct your enquiries to:

BRITISH HERMESEAL LTD · 4 PARK LANE · LONDON · W.1.

Telephone: GROsvenor 4324 (5 lines) branches throughout the country

E

A CANOPY in GLASCRETE



Reinforced Concrete and Glass

•

This canopy for the Dorking Urban District Council was cast in-situ by our skilled labour.

Construction Type 80/4
Span 22' 6"

H. V. Knight Esq., M.I.Mun.E., Engineer and Surveyor.

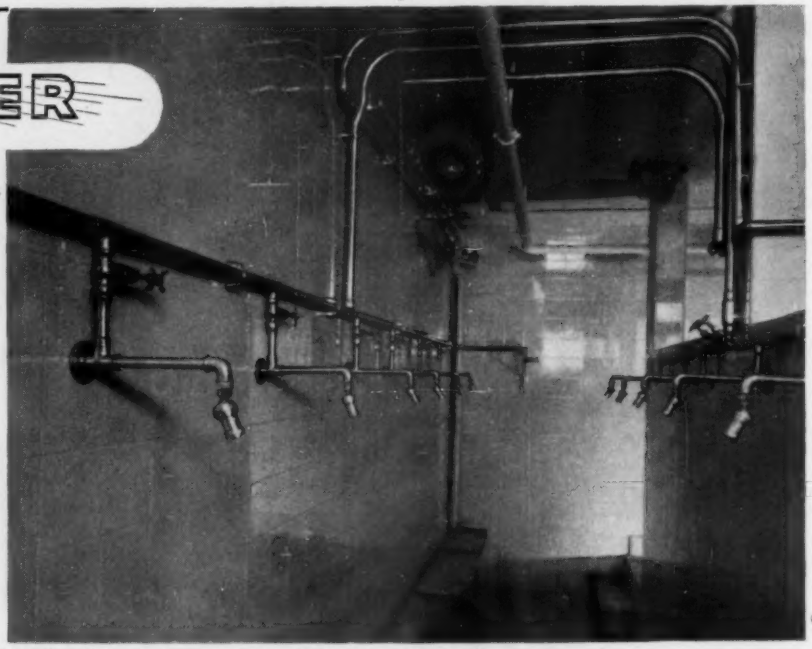
•

Our comprehensive Brochure P47, which we shall be pleased to send on request, gives data, applications and possibilities of all Glascrete constructions.

J. A. KING & Co. Ltd.
181 Queen Victoria St. LONDON, E.C.4
Telephone: CENtral 5866 (5 lines)

SHOWER equipment

Swivel shower fittings as installed at Knutsford Secondary School, illustration by permission of the Cheshire County Council and the Consulting Engineers, Messrs. E. G. Phillips Son & Norfolk, Nottingham.



by

GUMMER

Telephones: Rotherham 4865-6-7
GUMMERS LIMITED : ROTHERHAM
Telegrams: "Gummer" Rotherham
London Office: 38, Victoria Street, London S.W.1. London Abbey: 6473.

Clearly a case for Cementone . . .

CONTRACT
W. Midland Gas Board
Foleshill Gas Works, Coventry.

WORK
Re-decoration of exterior brickwork and concrete.

SPECIFICATION
2 coats NUMBER SEVEN L.A.B. Quality.

REMARKS
Particularly difficult re-decoration job in the centre of an industrial area. NUMBER SEVEN standing up very well to these conditions. Other parts re-decorated in 1953 show no signs of deterioration.

DECORATION IN A SULPHUR-LADEN ATMOSPHERE

number seven
THE *UNIVERSAL* DECORATIVE FINISH

Cementone NUMBER SEVEN, being specially formulated for 'difficult' jobs, is ideally suitable for all decorative work. Available in 54 light-fast and alkali-resisting colours. Colour card and full details sent on request.

JOSEPH FREEMAN, SONS & CO. LTD. : CEMENTONE WORKS : WANDSWORTH : LONDON, S.W.18
Telephone: VANdyke 2432 (10 lines) **Telegrams: CEMENTONE, WESPHONE, LONDON**

THE SUNUMINIUM VENETIAN BLIND

The finest edition of the Flexible Aluminium Blind

- ★ **Concealed non-ferrous metal and sherardised steel mechanism**
- ★ **Galvanized head and bottom rail**
- ★ **Slatting of special aluminium alloy**
- ★ **Extra strong cords**
- ★ **A robust British blind superbly finished**

GUARANTEED LIGHT TIGHT
DARK BLINDS
HAND OR ELECTRICALLY OPERATED

THREE MODELS

- ★ **The Super C — All metal casing**
- ★ **Type C — Metal and wood casing**
- ★ **Type A — All wood casing**
  (As fitted to The National Institute of Medical Research, Mill Hill)

Ask for a sample of our duo-faced washable leathercloth

J. AVERY & CO. (EST. 1834) LTD
81 GREAT PORTLAND STREET · LONDON, W.1

And 791 CHRISTCHURCH ROAD, BOSCOMBE, BOURNEMOUTH. ✱ Agents—Manchester · Birmingham · Aberdeen · Glasgow

UTILIZE WASTED **LOFT-SPACE** WHICH HAS ALREADY BEEN PAID FOR

HERE IS THE IDEAL PLACE FOR:
HOBBY ROOM
CHILDREN'S PLAYROOM
GUEST ROOM
STUDY

BY UTILIZATION OF LOFT SPACE THE VALUE OF ANY HOUSE WILL BE CONSIDERABLY IMPROVED.

LIGHT AND *VENTILATION* *are provided by the*

VELUX ROOFLIGHT WINDOW

An Advanced Construction which provides maximum light and controlled ventilation for all buildings.

Can be fitted to pitched roofs of any covering.

A sound and economical investment.

Metal Encased Wood - Maintenance Free

Double Glazed - Sound and Heat Insulating

Pivot Hinged - Easy Cleaning From Within

Improved Ventilation.

Weatherproof.

Maximum daylight in the room.

More economical than Dormer Windows.

Easy installation in new as well as existing buildings.

Note the easy cleaning of all panes from within.

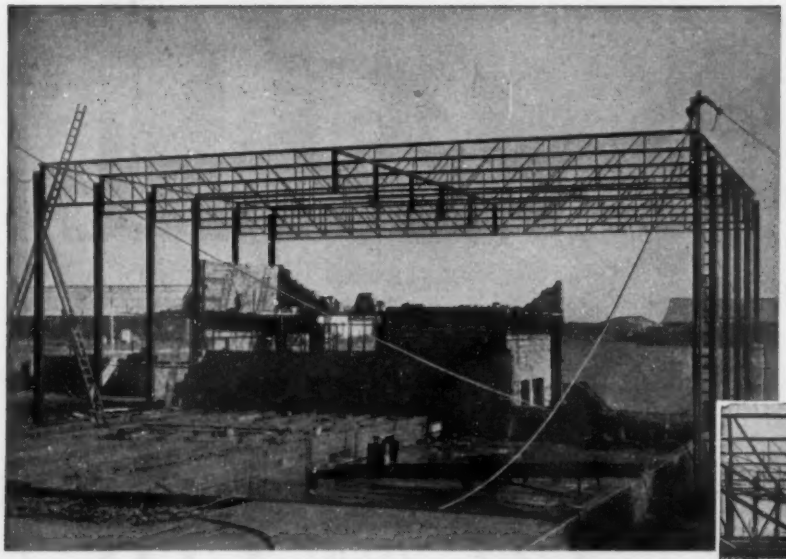
An exterior — and how an interior can be arranged by Velux Rooflights.

District Agents in many parts of the country at your service.

Please write for details to:

The VELUX COMPANY LIMITED
167, VICTORIA STREET, LONDON, S.W.1.
Telephones: Victoria 3570 and 8916.

HOTCHKISS LATTICE CONSTRUCTION



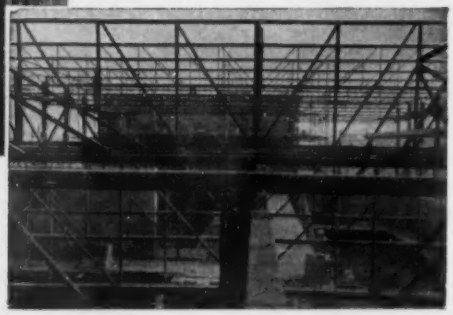
52ft. lattice girders at a Portsmouth factory. Architects: Thomas Jolly & Grant. Contractors: John Hunt Ltd.

Hotchkiss Lattice Construction is being used for new schools, churches, factories, halls and many other buildings to the requirements of County Councils, Borough Councils and many leading architects.

The system is entirely flexible in application and suitable for all types of covering materials.

Your specific enquiries are invited. Our design services are free and it is most advantageous to call us in at an early stage.

Catalogue No. LG9 is available upon request.



HOTCHKISS ENGINEERS LTD.
EASTBOURNE AND SHOREHAM SUSSEX
ESTABLISHED 1885
HEAD OFFICE: 33, TERMINUS PLACE, EASTBOURNE. TEL. 2424 (4 LINES)

Vol. 209 No. 20

THE ARCHITECT & BUILDING NEWS

May 17, 1956

The "Architect and Building News" incorporates the "Architect" founded in 1869, and the "Building News," founded in 1854. The annual subscription, inland and overseas, is £2 15s. 0d. post paid: U.S.A. and Canada $9.00 Registered as a Newspaper.

Published by ILIFFE & SONS LTD., DORSET HOUSE, STAMFORD STREET, LONDON, S.E.1
Telephone: WATERLOO 3333 (60 lines). *Telegrams:* "ARCHITONIA, SEDIST, LONDON."

Branch Offices: Coventry: 8-10 Corporation Street; *Birmingham:* King Edward House, New Street; *Manchester:* 260 Deansgate. *Tel.:* Blackfriars 4412 (3 lines), Deansgate 3595 (2 lines); *Glasgow:* 26B Renfield Street.

. . . FROM WHENCE IT CAME

AN early Easter usually means that the first warm holiday of the year is withheld until Whitsun. It may be assumed it will be then that the coach parties, motorists and cyclists and walkers and rock climbers get properly into their stride—or stream; and also that the rash of paper cartons, empty cigarette packets, wrappers of all kinds, odd pieces of paper, peelings, bottles and what-have-you will again appear like a disease to mar the beauty of the very thing all the owners of the offending articles have set out to see and enjoy. "A dismal subject," the Friends of the Lake District call it in their Report and News Letter of April this year; and it is with some regret we mention such a distasteful matter when the air is full of the holiday spirit; but it seems to us not inappropriate to do so all the same.

To quote from the News Letter which contains a report on the subject of litter in the Lake District: " . . . the very worst disfigurement that is happening in the Lake District (certainly in every sense the most widespread) is the careless dropping everywhere of objects that tend to make litter . . ." Every class and type is guilty. The summit cairns are foul and rock ledges defiled. The local people are in it as well as the visitors. Not every farmer puts his empty cigarette-packet back in his pocket and some allow their lime bags to fly in the wind. Most of the cars on a sunny evening by Crummock Water, a black beauty spot, have Cumberland registration numbers. The hedge sides are continually littered from Kendal to Brigsteer, on a road little used by visitors but much frequented by Kendal people (by men exercising trail hounds and others). A little on the Westmorland side of the Dunmail Cairn, is a dump of worn out "cat's-eyes" left by the highway authority. At Wall End and on Whin-latter are litter-baskets often overflowing and unemptied. We are dealing here with a national sin."

The picture is a gloomy one; and very much the same sort of scene could be painted of other parts of the country, particularly after a national holiday.

Persuasion and propaganda are little good piece-meal. But if undertaken on a national scale they may in course of time effect a change in the whole outlook of the nation.

On the brighter side the Report continues: "We are hoping that coach proprietors may be induced to put notices on their front windows, and that a large-scale public appeal, which we know will win some response, may be made to the manufacturers of wrapped foods, sweets and tobacco to incorporate anti-litter slogans in all their printing."

British Railways have some telling posters. The A.A. and R.A.C. and all the outdoor societies are doing something to influence their members. The Girl Guides are signing pledges, so the report tells us.

And you, dear reader! . . . We know we are preaching to the converted, and of course none of our readers would consciously leave any litter lying around. But if you do happen to be spending Whitsun in the Lake District, instead of finishing off that belated design for a small house or a half-completed specification, it might be a kindness to warn others, that in the Lake District the National Trust are taking a firm line and have every intention of enforcing its Bye-laws, if necessary by prosecution. Elsewhere, you may even find this note a convenient way of dropping a broad hint.

But seriously, there is something everyone could do to help the litter problem a very great deal (because the litter basket itself is very often an eye-sore); that is to employ the car, ruck-sack, basket, pocket that brought the litter out, to take it back again.

With that off our chest we wish you a regenerating and well . . . litter-free holiday.

EVENTS AND COMMENTS

ZÜRICH

In the past I have praised the new buildings at London Airport in the face of strong criticism. I have not yet been in the Queen's Building but I saw the main passenger handling building finished for the first time last week. I still like it. It was a grey day with sun here and there and in that kind of light the control building I had to admit looked dull. The car parks with their signs and barriers ruined the architecture and like at Blackpool there was no blade of grass to be seen. The cars ruined everything, they always do. I was through the customs on board a Viscount and away, believe it or not, in 20 minutes, there seemed to be no waiting about whatever. Once clear of the coast the clouds disappeared and at 21,500 feet we cruised across France at 310 m.p.h. Lunch, hot and quite good, and a pleasant conversation with my neighbour and we were crossing the Rhine. The captain announced that we should be at Zürich airport in ten minutes.

Even from the air the cleanliness and order was apparent. Incredibly green grass carpeted with yellow flowers. A line of model aircraft drawn up before the architects model of a terminal building seen for a long moment as we turned in. In another moment we were down, brakes hard on, then taxi-ing towards the welcoming waver on the tarmac who sensibly had an official bicycle.

We stepped out into high summer and forming up for an instant behind our exquisite traffic girl we walked to the customs shed. In marked contrast to London Airport the first thing one noticed was green grass, flowers and young trees in greenest leaf, the building is set on a bank above the tarmac and although it is a well-known beauty it would not be half so good without its planting nor would I have been half so thrilled with it had not the sun been blazing down.

The bright air and incredible lack of dirt made me want to cry with despair over our soot laden atmosphere and I wondered whether I should ever see London Airport so clean.

We were through the customs and into the large open bus and off in almost as little time as it takes to write. To my surprise I had no difficulty in understanding what was said to me but my replies were a ridiculous mixture of German, French, Swedish, and why oh why, after 11 years, Urdu.

Although trees and flowers all looked more advanced than in England I was quietly told that spring had only arrived three days before until then it had been winter during which the severest frosts for many years had killed many trees and done much damage to gardens. Not having the opportunity this time to tour the city looking at new buildings I have tended to see it as a normal tourist more or less tied to the central area. The shops are excellent, those selling clothes, shoes, cameras and watches seem to predominate and all have new but restrained shop fronts. Glaring fascia boards must be frowned on for they do not exist except on cinemas.

Having finished my work for the day I was delighted to walk into Professor and Mrs. Basil Spence, newly arrived on a tour of new Swiss churches, on their way they had spent two whole days at Corb's church at Ronchamp and Spence was, needless to say, full of it. If you want to hear his views you must attend his paper to be read at the R.I.B.A. on 19th June.

We agreed to meet for dinner and I went back to my hotel to change, and whom should I see there but Sir Thomas Bennett on a state visit to lecture to the local architects on New Towns. I dined with the Spence's in the open air under the shade of St. Peter's Church which has a clock face the size of Big Ben but much nearer the ground. The church stands on a ridge in the old part of the town and has a charmingly paved forecourt where I found two boys disturbing the peace playing football. A steep narrow lane flanked with small but clearly expensive antique shops leads back to the noise of trams and motor scooters.

The Zürich authorities worried by a not very serious traffic problem are considering putting the trams under the pavement. A German expert has advised them that this would be a good thing. The only ratepayers with whom I discussed the project considered it madness of a high order.

When we had dined and excellently wined ourselves on the local vintage we drove to the lake at the head of which the city stands. The night was absurdly warm and wonderfully starlit so we took a ride in a motor boat. With the lights on the shore reflected in the smooth water it was a fairy ride. It made me realise more than ever that neon-signs used with reasonable control and well designed make a great contribution to the right scene. On this particular occasion the lights of Knie's Swiss National Circus set up right in the centre of things added to the fun.

The evening ended in a large open air café where in spite of our good dinner the professor and I devoured frankfurters and beer at eleven o'clock.

Wednesday was another perfect day and as I had work to do I was out walking at 8. I found all but the largest shops opening but few people about. Traffic is on the whole kind to pedestrians in Zürich and there is little or no hooting. However two drivers took exception to Basil Spence driving rather too near the crown of the road in a moment of aberration and made peremptory signs and noises at him. They were however trebly rewarded for their lack of understanding by shortly afterwards colliding with each other and interlocking their bumpers.

After a morning's work one of the leading local architects Conrad Furrer took me to his house to lunch. We were there in ten minutes and seemed to be deep in the country. The house which he built some years ago is mainly of one storey and by our standards enormous. It contains traditional shapes with the most comfortable

type of open plan and has a wonderful air of spaciousness. Mrs. Furrer runs what appears to be a mixture of a nursery school and a craft class for children—I cannot describe it more exactly for I saw no children but only their work which included weaving, model making and clearly a great deal of fascinating and ordered messing about with materials of all kinds. A large room was divided into different areas of activity each bulging with equipment with everything most astonishingly tidy. I would have liked to have joined the next class.

A cantilevered granite slab stair led to Mr. Furrer's workroom above. Bare boards and rugs, choice drawings—among them I saw two Picasso's—and lots of space. His mass of books are kept in a special cupboard for two reasons, first because it is easier to keep them clean and secondly because it thus leaves the walls of his room free for pictures.

Lunch was served by an Italian maid in a loggia looking across the tree tops towards the lake, the grass was very green and the mass of dandelions very yellow. There was complete peace and we might have been in the depths of the country. I was closely questioned about old friends in England for Mr. Furrer was responsible for the exhibition of Swiss architecture held in London in 1946. He and his wife well remembered the consternation at the R.I.B.A. when three railway containers of material arrived and how after filling the main hall the exhibition gradually overflowed on to the landing and staircase.

Like all architects Mr. Furrer works too hard; a large competition was due in in thirty-six hours and day and night work had to be done to complete it. This on top of a busy practice and the usual committees. We drove back to the town.

ABNER

NEW FACULTY OF ARTS BUILDING, EXETER UNIVERSITY

Last week, the Queen presented a Charter to the Chancellor of the University of Exeter, Mary, Duchess of Devonshire, at a ceremony to mark the elevation of the former University College of the South West to full University status. The ceremony took place in a specially built pavilion on the University's estate on the outskirts of Exeter. At the same ceremony the Queen unveiled the foundation stone of a new building for the Faculty of Arts.

The Arts Building which is expected to cost about £300,000 will be the first major construction of the new University and the first stage in the further development of the Streatham estate, within the existing ring of buildings designed by Mr. Vincent Harris.

Have we missed the Bus?

YOU do not often find articles about architecture in the popular magazines. More's the pity, because buildings reproduce excellently in photogravure and make a pleasant change from the architecture of Italian film actresses and the structural components of American-style vocalists. Is it because architecture is such heavy reading? But writers like Sir Hugh Casson, Professor Pevsner, Mr. Betjeman, Mr. Richards and Mr. Summerson can make informative straw out of the weightiest bricks. Is it because editors know that none of their readers are interested? But decide to demolish the Imperial Institute, and you drive the Middle East, the crisis in the motor industries and the delinquencies of the M.C.C. Team off the correspondence pages of the dailies.

All the more welcome therefore to find in an issue of *Everybody's* an adult and persuasive article by John Anstey entitled "Is British Architecture Behind the Times?" The subtitle reads: "After travelling through many countries, our author asks this question. But what are your opinions on this important subject?"

The question, as Mr. Anstey asks it, is of the type which, as our Latin masters drilled into us, begin with the word *Nonne* and expect an affirmative answer. Mr. Anstey, albeit reluctantly, has after his travels to tell his readers that "Britain is behind almost every other civilised country in the world in the design of its new buildings;" that "many British architects have had to travel abroad to escape the frustration of seeing their best ideas turned down and replaced by designs which stem from the most conservative—and often the least attractive — of buildings erected in the last hundred years;" whereas "in foreign countries they look for originality, beauty, the functional worth of the plan . . . here they look at all their neighbours' property, then commission something just a little more depressing . . ."

The illustrations show the United Nations Building in Manhattan, the Finnish Church at Rajamäki, detached private houses in North Africa and South America, and, last and definitely least, a typical row of British post-war semi-detached houses by way of contrast.

One may of course feel this was just a little hard, appearing as it did only a short time before the air became so thick with big redevelopment plans that one had almost to duck in order to avoid them. Since the article was written the New Barbican project has come up for decision; and the L.C.C. skyscraper flats in Poplar, Sir William Holford's plan for the St. Paul's area and the Government's new Imperial College have all appeared in the press. At the same time, with the arrival of what might be spring, new buildings slough off their scaffolding and preen themselves in the most unexpected corners, many of them clearly the work not only of architects but of gifted architects. And we have some laurels to repose on: the Festival Hall, Harlow New Town, London Airport, Owen Owen's store in Coventry, the Ackroydon Estate in Wimbledon. Can it really be as bad as Mr. Anstey says?

And even if it is, haven't we some valid excuses? Our endemic post-war poverty. Our deliberate subordination of privileged personal expression to social projects. Our shortage of land. Our climate. Is it fair to juxtapose those thrilling glass and wood or glass and concrete caprices standing in plenty of ground under sunny skies with the uninspired terracing all behind wire and posts which "housing the people" can entail? And if it comes to letting the citizen freely express his fancies and even his fantasies, what price the suburbs of Paris or the outskirts of many intact German towns? While if you want an enlightened official taste, isn't ours more abreast of the times than the stranded Victorianism of Stalinist Russia?

At this point comes some friend who has seen the new Rome railway station and asks us when British Railways are going to start producing, etc., etc. Or has seen, not the church at Rajamäki but the Protestant Church in Freiburg or the Capela da Marconi in the Alentijo, Portugal, and asks us what the Church of England has to show, except Coventry Cathedral. Owen Owen's is cancelled out by the routine chain and multiple store buildings rising in so many of our reconstructed towns. Though we are putting up some of the world's best schools we are putting up all too many of the world's least enterprising public and commercial buildings: take a look round the City *passim* or sit in Hyde Park and contemplate the beef-red façade of the new National Farmers' Union headquarters. It is all very well, rambling round rural Bucks, to come upon a really nicely proportioned terrace of houses rising from the fields built by a quarrying company for its employees: such surprises are less uncommon than one might think, but all the time more and more builders are getting away with lazy reproductions of pre-war imitations of Queen Anne or Tudor. The Arts Council's recent "Ten Years of British Architecture" suggested that while our architects are building some enchanting private houses and even fumbling towards a reasonable vernacular for public housing and industry, we are still terribly weak in civic design. It is possible of course to argue endlessly on either side by multiplying instances. But if you have done even a moderate amount of travelling both abroad and at home in the last few years, it is difficult not to bow to the indictment that our post-war architecture lacks adventure, surprise, character and, too often, even charm.

Mr. Anstey, who found exciting modern buildings in Baghdad, does not pin the blame on architects (though he could well have taken a stick to a certain section of the profession). Rather he locates the fault in the dull, conservative taste of those who direct the nation's

housebuilding—in particular, city and borough councillors. Now it is easy (and possibly even healthy) to blame local authorities for most things—and not only urban ones either—but isn't Mr. Anstey ranging on rather a restricted target? After all, the NFU is not a local authority; nor is English Electric Ltd., which is reported to have set aside an adventurous winning design by Gordon Tait for their new building in Aldwych in favour of what seems a "safer" design by Dr. Holden; nor are the property companies who erect those vapid office and shop buildings which are rapidly becoming part of the national heritage; nor are the increasing number of private builders and private citizens who are building for their own profit or pleasure. If British design is tired and sad, the fault can hardly be with one small section of the community. Where then (that time-honoured question) does the fault lie?

How far are councils the villains? Certainly the design and layout of much local authority housing is uninspired. This may be due to the architect (in some big towns it is difficult not to believe that the City Engineer is still designing the housing) or to the committee members themselves who like everything to be as near as possible to the houses they were brought up in. The ingenious travel agents who devise painting holidays in the Cézanne country or train cruises of the Continent might lay on a special architectural holiday for members of Housing and Planning Committees. (They can in fact tour German castles by coach, but would that be altogether wise?)

Is planning control too lax? One suspects so: yet if control is too tight nothing gets built at all and frustration festers. The cost of Local Government increases, but Local Government salaries remain low and the careers not over attractive. The congestion of business in Local Government offices and Ministries does not seem to decrease. The pressure to let mediocre and positively bad designs through must be very heavy. Quite apart from the sacrosanct Government Departments, who are scarcely accountable for the design of their buildings at all.

Are architects to blame? One hears tales of course of architects who set cutting a dash and pushing up a good fee above their client's strict requirements. One sees the work of architects who clearly haven't dared to say boo to their clients. Then one employs an architect who seems prepared to devote his existence to giving you the best possible house at the lowest possible cost and has to be practically bludgeoned to send in a bill. Even then one spends half the time asking the poor chap if he can't possibly do it cheaper. Architecture, which requires dedication if ever a profession did, perhaps suffers, like publishing and engine-driving, from a superficial glamour which conceals a terribly hard core of hard chore. The ploughing through the Planning Acts, the brain-racking to create built-in cupboards without using any material, the search for a firm that can be relied on to send a man to lay the

Church at Rajamaki, Finland

right floor tiles in the right room in the right house on the right day—all this is rather far removed from creating the sort of houses Mr. Anstey illustrates. In this country architects can hardly be blamed for feeling that they spend most of their time pushing peas up a hill with their noses and only a minute part of it creatively designing.

Does this then add up to an explanation of why British design is less good than it should be? Surely something is missing from the indictment, if indictment it is. The patron of course. And here suddenly, I feel, the whole thing clicks into place. No architecture, except perhaps architects' own houses, creates itself; all architecture is commissioned. Good architecture must depend on the coincidence of adequate amounts of money and taste (and included in "taste" are adventure, surprise, all the qualities whose lack Mr. Anstey deplores). In an inflationary economy where the simplest "mass-produced" council house costs at least £3,000, build and the smallest private dwelling at least £3,000, it is easy to have taste but not money. In an inflationary economy with high profits and a constant urge to expand it is easy to have money but not taste. All too rarely in the private sector, the public sector and the public-private sector (companies, trade unions, etc.) do taste and money focus exactly, and then you get exciting architecture. All too often one outranges the other, and then you get . . . well, let's not go into it again. Like so many other good things these days, British patrons are not what they were, and perhaps never will be. In which case, neither will British architecture.

GODFREY STREET.

The new Technical Service Laboratories at Egham, Surrey of the Shell Chemical Co. Ltd., The cantilever on the left side of the picture is a conference room with a viewing platform below which projects out over a natural lake incorporated in the general planning. Externally, most of the walls are 2in brick facings. Architects: Walker Harwood & Cranswick. General Contractors: Trollope & Colls Ltd.

NEWS

Scotcish Town Development Legislation

Proposals for inclusion in a Scottish Town Development Bill, to be introduced by the Government to facilitate the transfer of overspill population from congested areas, will be the subject of formal discussions with local authority associations this summer.

This was announced by Lord Strathclyde, Minister of State for Scotland, when he met representatives of the Clyde Valley Planning Advisory Committee in St. Andrew's House, Edinburgh, recently, to discuss the proposals for such legislation submitted to the Secretary of State by the Committee on March 9, 1956.

The Minister told the Committee that their proposals would be carefully considered before any legislation is drafted. Draft legislation will be discussed with local authorities during the summer.

He thanked the Committee for the advice they had given the Secretary of State, and assured them that he would be happy to consider any further proposals regarding overspill which they might wish to put forward.

It would be most helpful to the Government, he said, if the Committee would consider the industrial possibilities in the reception areas already suggested, or under consideration, by the Committee.

The Committee representatives at the meeting were led by Treasurer Meldrum, Chairman.

The proposals submitted to the Secretary of State by the Committee were—

1. That any such legislation should be in more positive terms than the Town Development Act, 1952, at present in operation in England and Wales.
2. That it must envisage not merely the expansion of existing communities, but also the establishment of new communities of a size smaller than that contemplated under the New Towns Act, 1946.
3. (i) That it should not contain any clause equivalent to subsection 1(a) of section 2 of the Town Development Act, 1952, which requires town development to be "on a substantial scale".

(ii) That is should apply to schemes designed to relieve congestion or over-population in: (a) a city, burgh or town; or (b) a county district outside the county in which the development is to be carried out; or in two or more such local government areas.

4. That it must place a definite obligation on the Minister to pay grant to receiving authorities in respect of all expenditure incurred by them in accommodating overspill of population from another area.
5. That it must state the actual amount of such grant, which must be at least 75 per cent.
6. That, if it is the Government's intention to require exporting authorities to make contributions to receiving authorities, the amount or nature of such contributions should be specified.
7. That there must be positive provision for Government financial assistance to industry to induce its removal to the expanding areas. If this is not feasible in any legislation relating to town and village expansion, there should be separate concurrent legislation to deal with the industrial aspect.

COMING EVENTS

Royal Institute of British Architects

May 22 to May 30. Exhibition: Hemel Hempstead—New Town from Old. Monday-Friday 10-7: Saturday 10-5. At 66 Portland Place, W.1.

The Institution of Structural Engineers

May 24 at 6 p.m. Annual General Meeting. At 11 Upper Belgrave Street, S.W.1.

Announcements

Maurice Bebb has moved from 96 Park Lane, London, W.1., to more spacious accommodation at 23/25 Maddox Street, London, W.1., and will be pleased to receive new Trade Catalogues.

* * *

J. M. Austin-Smith & Partner, A.A.Dip., A/A.R.I.B.A., of 29 Sackville Street, London, W.1, have taken into partnership Mr. P. J. Lord, A.A.Dip.(Hons.), A.R.I.B.A., and Mr. Geoffrey Salmon, A.A.Dip.(Hons.), A.R.I.B.A. The practice will be carried on under the title of J. M. Austin-Smith & Partners.

High Building in London

The Town Planning Committee of the L.C.C. have prepared a report on high building in London; and this was considered at a meeting of the Council on Tuesday, May 15th. The report is published below in its entirety.

ONE of the most interesting changes in the London scene in the future is likely to be the development of high buildings. At present three-quarters of London's buildings are four storeys or less in height and it is only in the inner areas and district centres that higher blocks occur. Even so there are very few buildings over 100 feet in height except for church steeples and architectural features on public buildings. This state of affairs has been due more to public opinion than to any legal constructional considerations. It was not until 1890 that the Council obtained powers, later included in the London Building Act, 1894, to limit the height of buildings. Since then there has been little change in the legal position; the present requirement is that the Council's consent is necessary for the erection of any building exceeding 100 feet in height. Since the war it has become generally (but not universally) accepted that there is no objection in principle to buildings over 100 feet being erected in suitable positions.

With modern techniques of construction it has for some time been possible to build high; indeed, the height of buildings is now limited more by economics and the weight-bearing capacity of the subsoil than by purely constructional considerations. The subsoil in London is very varied but in many parts it is thought that blocks up to 300 feet high could be built without undue cost for foundations. Care would obviously have to be taken of the effect of deep foundations on tube railways or other underground installations. The effect of the Council's standards of plot ratio and daylighting control is to encourage high buildings in the form of an open spine or tower, rather than a lower, bulky type of buildings surrounding internal courtyards.

The requirements imposed by the Council under the London Building Acts for securing proper arrangements for lessening danger fom fire in tall buildings are satisfied by the introduction at appropriate intervals of "tower staircases" combining the staircases and lifts in self-contained fire-resisting units which must be next to the open air from top to ground and be immediately accessible to fire brigade appliances at ground level. In these respects Building Act requirements have some effect on the lay-out, which in turn affects the general design.

The Council itself has included proposals for high buildings in a number of its schemes for areas which are being comprehensively developed; for example, the plans for the South Bank area include an office building of over 300 feet, carefully sited as a vertical feature in a group of public and semi-public buildings of a general height of about 100 feet. In residential areas the Council has been building tower blocks and slab blocks of flats of eleven storeys grouped in various ways, and further schemes for higher blocks are now under consideration. Other areas of comprehensive development, such as Barbican, now under consideration by the City Corporation, offer similar opportunities for the siting of high buildings.

A more difficult problem occurs where a private developer submits proposals for a single site and such applications are likely to be received in increasing numbers. Compliance with building regulations must be secured and there is no question of permitting any departure from planning standards or allowing increased plot ratio because of the height of the building. Apart from these aspects such applications pose a fresh series of planning problems, the major issues being the location of such buildings in relation to the town as a whole and their effect on their immediate surroundings. We have therefore thought it necessary to consider the lines on which proposals for such high buildings shall be dealt with because the matter affects not only the developers and occupants of such buildings, but also the owners and occupants of nearby buildings, the man in the street, and all who are concerned for the preservation and enhancement of the London scene. Here we observe that a building under 100 feet might be a "high building" in the outer aeas of London where the general level of development is much lower; in such areas buildings of even six storeys can make an appreciable difference to the urban scene and need careful consideration.

The practical advantages and disadvantages of tall buildings

The building uses most suitable for vertical forms of development are offices, flats and hotels. It is, however, possible that in the future, provided sites are sufficiently large, composite buildings for two or more uses, combined with buildings of a public character (*e.g.*, cultural, religious or recreational) will achieve importance in the large-scale development of central areas. There are interesting examples abroad of such buildings, *e.g.*, the Rockefeller Centre, New York, and the Palace of Culture, Warsaw. Proposals of this kind have already been made for London, *viz.*, High Paddington and High Barbican. High blocks, considered singly, cost relatively more than lower blocks, even when the fullest advantage is taken of modern techniques of planning and construction, but the extent to which they are built may depend on other factors, including the cost of land and, in the case of offices and hotels, prestige and advertisement value. Owing to the high cost of lifts and the considerable area they require, taken together with staircases, ducts and other vertical services, it seems likely that proposals for tall buildings may tend to be for slabs rather than towers, and to be associated with blocks of medium height which will share the services and thus increase the ratio of usable space to circulation space.

The advantages of high blocks may be summarised as follows: they make possible open lay-outs with green open space and the maximum public use of the ground; good lighting; good views from the upper storeys; good air; freedom from noise; architectural interest and contribution to London sky line, if well sited; in residential areas high blocks of flats give a high density for a small site and make possible a mixed development for the whole area with a higher proportion of lower dwellings with gardens.

The disadvantages of high blocks are: if badly sited they

High Building in London

will tend to disrupt existing architectural groups or may produce a change of scale which may destroy the dominance of public buildings; they may impair famous views across London from high points such as Hampstead Heath; they may overshadow adjoining buildings to an undesirable degree; smoke from lower buildings and factory chimneys may blow into their windows; as previously mentioned, there may be a tendency to build slabs instead of point blocks and buildings in slab form tend to be more dominating than point blocks of the same height and need great care in design if they are not to be out of scale with their surroundings.

Effect on adjoining development

The fact that proposals for high buildings may take the form of slabs rather than point blocks is of considerable importance in considering the effect of high buildings on their neighbours. A slab casts a larger shadow than a point block, especially if it runs from east to west, and analysis shows that it would be possible to design a high building completely in conformity with the present standards of daylighting which would seriously affect its neighbours, especially if other high buildings were later erected nearby. We are considering whether new standards should be formulated to cover these possibilities; meanwhile, we shall examine proposals very carefully from this point of view and we shall have particularly in mind the interests of occupiers of premises in the vicinity. In addition to the regard we shall pay to these interests under planning law, the owners and occupiers of properties in the vicinity may have common law rights to light and rights under covenants which they can exercise for their protection; furthermore the owners and lessees of properties within a hundred yards who may deem themselves aggrieved by the granting of consent to the erection of a building over 100 feet in height have the right to appeal under section 52 of the London Building Act, 1930 and there have been cases where developers have been prevented from erecting buildings in their approved form because of such appeal action.

Location of high buildings

The exact position of high buildings is extremely important. There are in London a number of situations where a high building might make a positive contribution to the urban scene, for example at civic centres and other focal points, and on suitable sites in the central area and along the river. In other places the introduction of high buildings might be detrimental, for example, where they would spoil an existing urban group. There are a large number of urban groups such as the London squares, where a badly-sited high building, even some considerable distance away, might do lasting damage and we consider it to be the Council's duty as planning authority to keep a very close watch on all such proposals. Elsewhere, where the street pattern is not regular and the development is haphazard, it may well be that high buildings would not be visible over wide areas and would not compete with national monuments and other significant groups. Provided high buildings in such areas conform to planning standards and do not affect their close neighbours detrimentally, there need be no objection to them. In fact, the open treatment at ground level rendered possible by building high may prove an added amenity.

The relationship of tall buildings to London's parks and open spaces and to the river constitutes a problem of its own. On the one hand there is much to be said for taking advantage of the openness; on the other it is important in many open spaces to avoid a feeling of "boxing-in", and consideration must be given to the overshadowing of the park and the effect upon trees.

Conclusion

To sum up, we consider that it is not possibe to prescribe rules to govern proposals for the erection of high buildings, but that each proposal must be considered on its merits, and that an assessment of these might be approached by posing a series of questions, as, for example:

(1) Whether the building will disrupt the pattern of existing development or obtrude itself on the skyline to the detriment of existing architectural groups and landscape.

(2) Whether its position has any positive visual or civic significance in relation to the town as a whole.

(3) Whether the site is large enough in relation to its surroundings to allow the erection of a suitably designed base of lower buildings or the provision of open space.

(4) The degree of overshadowing of the adjoining area and the extent to which the building would detract from the development possibilities of the adjoining area.

(5) Whether the building makes a better contribution to the general character of the area than possible alternatives and whether it relates satisfactorily to any other existing or proposed high building in the vicinity.

(6) The relationship of the proposed building to existing and proposed open spaces and to the River Thames.

(7) Whether, in view of its prominence, the design and materials proposed for the building are of sufficiently high quality.

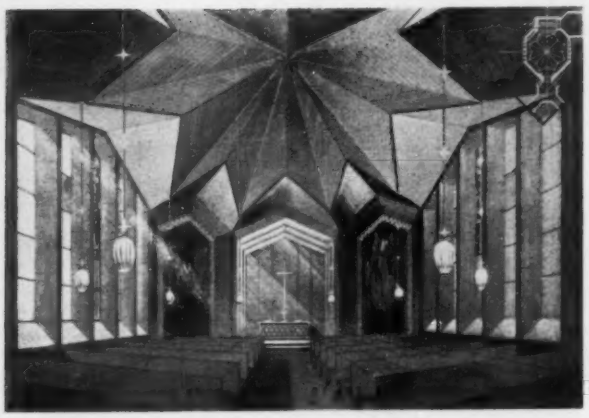
(8) Whether its illumination at night could detract from London's night scene.

We consider also that it should be made clear to developers that the Council does not recognise any right to erect high buildings; that besides the Council's normal planning standards, including plot ratio, the provisions of the London Building Acts, mainly relating to fire-precautions and to the rights of owners in the vicinity, will have an important bearing upon the design of the building and will involve seeking separate consents; and that before the Council gives planning permission for the erection of buildings which appreciably exceed the height of surrounding development, the applicant must make a case based on the considerations mentioned above.

In deliberating upon this subject we have had the benefit of the views of the Royal Fine Art Commission who are at one with us in thinking that there can be no hard-and-fast rule and that each proposed building must be considered on its merits.

RICHARD EDMONDS, *Chairman*

ARCHITECTURE AT THE ROYAL ACADEMY



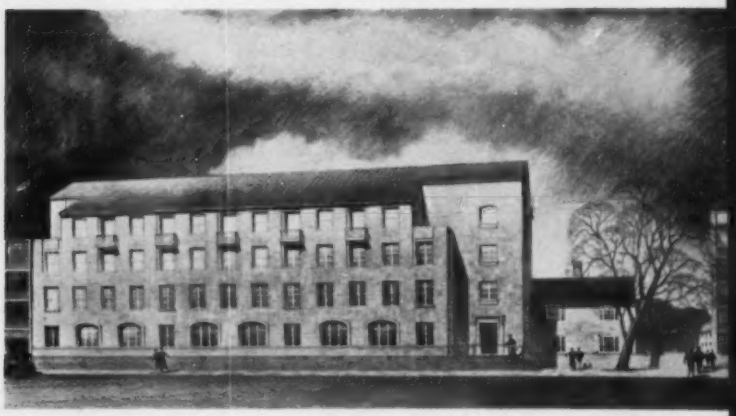
The Convent of the Sacred Heart of Jesus and Mary Dockenfield.
Architect: John A. Strubbe.
Drawn by: John A. Strubbe.

Barber's Hall: Interior.
Architect: Kenneth M. B. Cross.
Drawn by: John J. Adams.

Eyres Monsell Parish Church, Leicester.
Architect: Basil Spence, A.R.A.
Drawn by: Basil Spence.

Sports Pavilion in West London.
Architect: Anthony Chitty (Hening & Chitty).
Drawn by: E. J. Thring

Proposed Office Building, Westgate Street, Gloucester.
Architect: Donald H. McMorran, A.R.A.
Drawn by: Arthur H. Shearing.



High Building in London

will tend to disrupt existing architectural groups or may produce a change of scale which may destroy the dominance of public buildings; they may impair famous views across London from high points such as Hampstead Heath; they may overshadow adjoining buildings to an undesirable degree; smoke from lower buildings and factory chimneys may blow into their windows; as previously mentioned, there may be a tendency to build slabs instead of point blocks and buildings in slab form tend to be more dominating than point blocks of the same height and need great care in design if they are not to be out of scale with their surroundings.

Effect on adjoining development

The fact that proposals for high buildings may take the form of slabs rather than point blocks is of considerable importance in considering the effect of high buildings on their neighbours. A slab casts a larger shadow than a point block, especially if it runs from east to west, and analysis shows that it would be possible to design a high building completely in conformity with the present standards of daylighting which would seriously affect its neighbours, especially if other high buildings were later erected nearby. We are considering whether new standards should be formulated to cover these possibilities; meanwhile, we shall examine proposals very carefully from this point of view and we shall have particularly in mind the interests of occupiers of premises in the vicinity. In addition to the regard we shall pay to these interests under planning law, the owners and occupiers of properties in the vicinity may have common law rights to light and rights under covenants which they can exercise for their protection; furthermore the owners and lessees of properties within a hundred yards who may deem themselves aggrieved by the granting of consent to the erection of a building over 100 feet in height have the right to appeal under section 52 of the London Building Act, 1930 and there have been cases where developers have been prevented from erecting buildings in their approved form because of such appeal action.

Location of high buildings

The exact position of high buildings is extremely important. There are in London a number of situations where a high building might make a positive contribution to the urban scene, for example at civic centres and other focal points, and on suitable sites in the central area and along the river. In other places the introduction of high buildings might be detrimental, for example, where they would spoil an existing urban group. There are a large number of urban groups such as the London squares, where a badly-sited high building, even some considerable distance away, might do lasting damage and we consider it to be the Council's duty as planning authority to keep a very close watch on all such proposals. Elsewhere, where the street pattern is not regular and the development is haphazard, it may well be that high buildings would not be visible over wide areas and would not compete with national monuments and other significant groups. Provided high buildings in such areas conform to planning standards and do not affect their close neighbours detrimentally, there need be no objection to them. In fact, the open treatment at ground level rendered possible by building high may prove an added amenity.

The relationship of tall buildings to London's parks and open spaces and to the river constitutes a problem of its own. On the one hand there is much to be said for taking advantage of the openness; on the other it is important in many open spaces to avoid a feeling of "boxing-in", and consideration must be given to the overshadowing of the park and the effect upon trees.

Conclusion

To sum up, we consider that it is not possibe to prescribe rules to govern proposals for the erection of high buildings, but that each proposal must be considered on its merits, and that an assessment of these might be approached by posing a series of questions, as, for example:

(1) Whether the building will disrupt the pattern of existing development or obtrude itself on the skyline to the detriment of existing architectural groups and landscape.

(2) Whether its position has any positive visual or civic significance in relation to the town as a whole.

(3) Whether the site is large enough in relation to its surroundings to allow the erection of a suitably designed base of lower buildings or the provision of open space.

(4) The degree of overshadowing of the adjoining area and the extent to which the building would detract from the development possibilities of the adjoining area.

(5) Whether the building makes a better contribution to the general character of the area than possible alternatives and whether it relates satisfactorily to any other existing or proposed high building in the vicinity.

(6) The relationship of the proposed building to existing and proposed open spaces and to the River Thames.

(7) Whether, in view of its prominence, the design and materials proposed for the building are of sufficiently high quality.

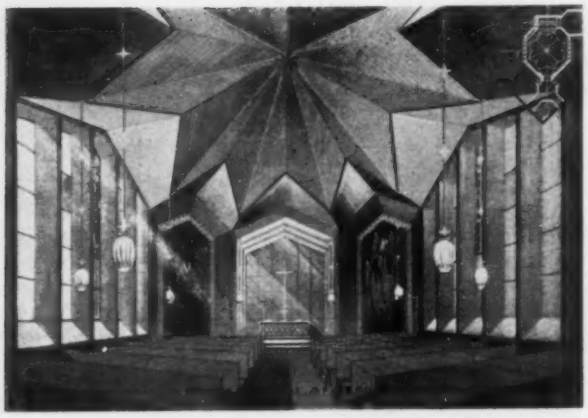
(8) Whether its illumination at night could detract from London's night scene.

We consider also that it should be made clear to developers that the Council does not recognise any right to erect high buildings; that besides the Council's normal planning standards, including plot ratio, the provisions of the London Building Acts, mainly relating to fire-precautions and to the rights of owners in the vicinity, will have an important bearing upon the design of the building and will involve seeking separate consents; and that before the Council gives planning permission for the erection of buildings which appreciably exceed the height of surrounding development, the applicant must make a case based on the considerations mentioned above.

In deliberating upon this subject we have had the benefit of the views of the Royal Fine Art Commission who are at one with us in thinking that there can be no hard-and-fast rule and that each proposed building must be considered on its merits.

RICHARD EDMONDS, *Chairman*

ARCHITECTURE AT THE ROYAL ACADEMY



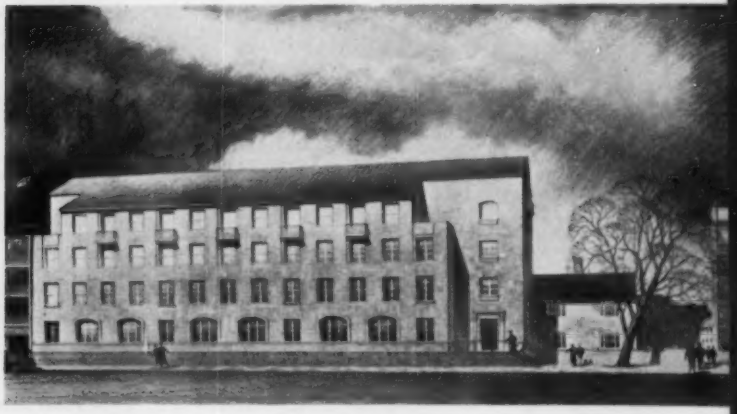
The Convent of the Sacred Heart of Jesus and Mary Dockenfield.
Architect: John A. Strubbe.
Drawn by: John A. Strubbe.

Barber's Hall: Interior.
Architect: Kenneth M. B. Cross.
Drawn by: John J. Adams.

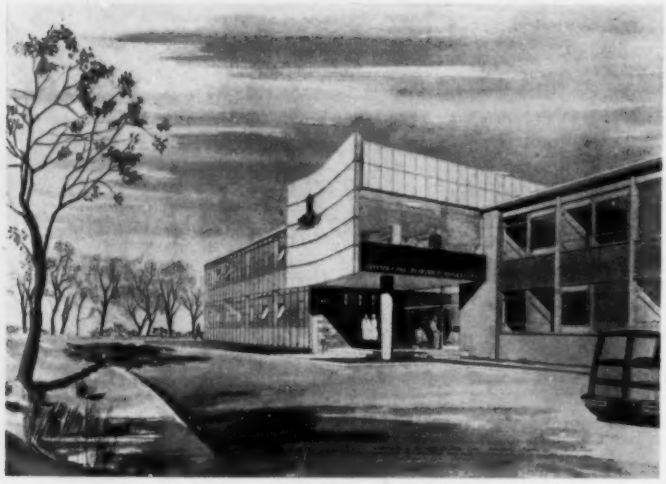
Eyres Monsell Parish Church, Leicester.
Architect: Basil Spence, A.R.A.
Drawn by: Basil Spence.

Sports Pavilion in West London.
Architect: Anthony Chitty (Hening & Chitty).
Drawn by: E. J. Thring

Proposed Office Building, Westgate Street, Gloucester.
Architect: Donald H. McMorran, A.R.A.
Drawn by: Arthur H. Shearing.



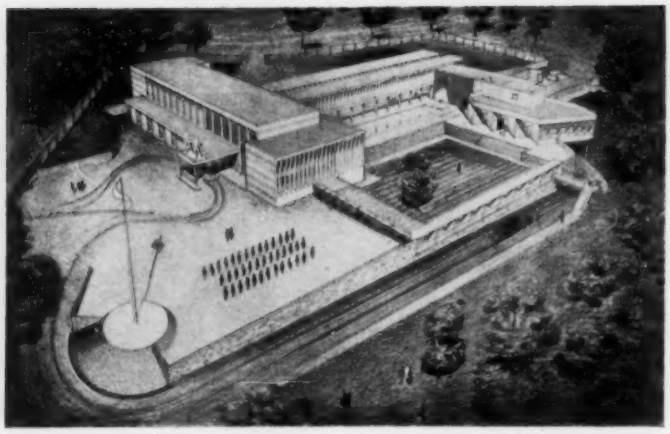
Architecture at the



Laboratories for the British Coke Research Association, Chesterfield.
Architects: Westwood, Sons & Harrison.
Drawn by: Z. J. Piet.

Proposed Church of Our Lady of Fatima, Harlow New Town.
Architect: Gerard T. Goalen.
Model by: McCutchon Studio.

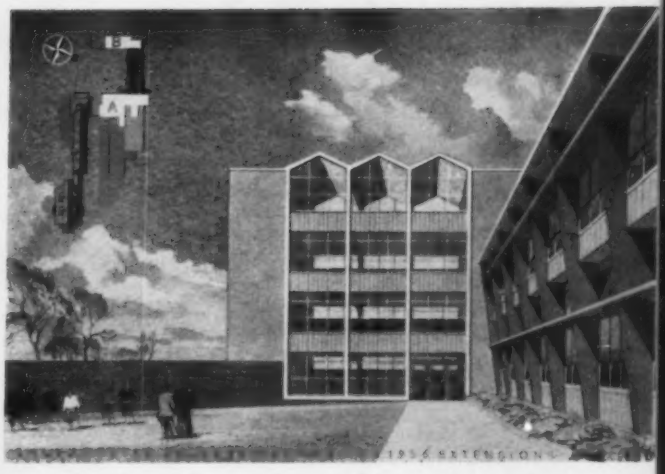
The New Church of Saint Etheldreda, Fulham, in the Diocese of London.
Architect: Guy Biscoe.
Drawn by: Myerscough-Walker.



Uganda Legislative Council Building, Kampala.
Architect: Geoffrey Bodgener
(Edward D. Mills and Partners).
Drawn by: Geoffrey Bodgener.

Royal Academy (Continued)

Proposed Offices for London Electricity Board at Bethnal Green.
Architects: L. K. Watson & H. J. Coates.
Drawn by: Donald Ruel Wilson.

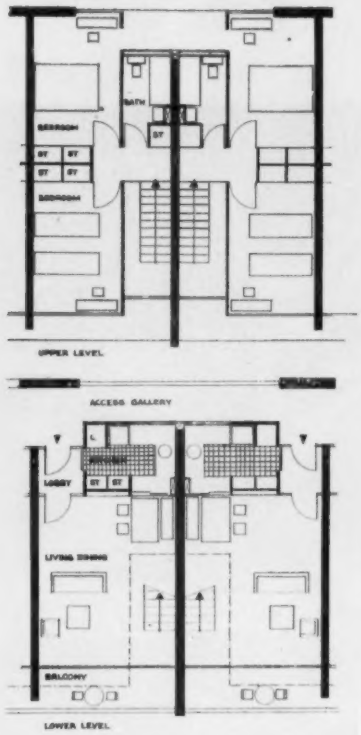


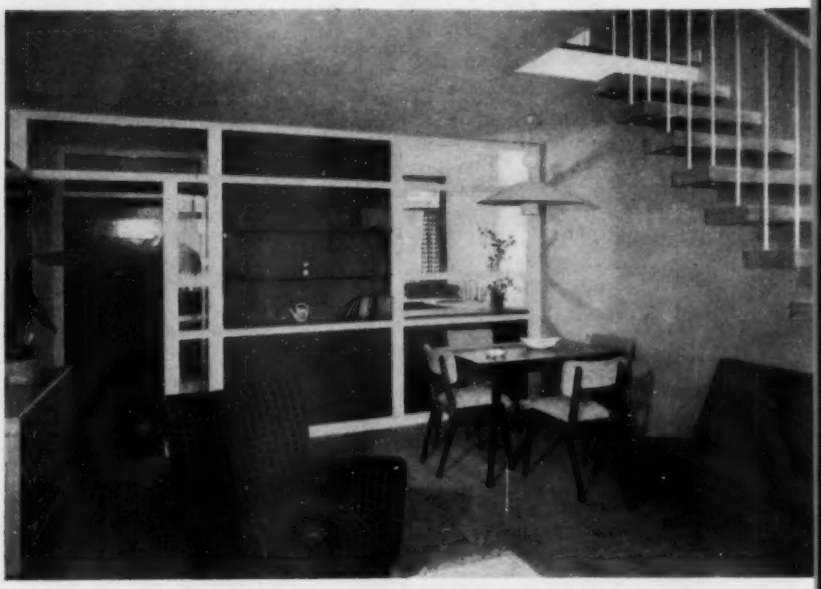
Salvatorian College, Harrow: 1956 Extensions, Block B.
Architect: John A. Strubbe.
Drawn by: E. Thring.

New Building for the Uganda Company, Kampala.
Architect: Louis de Soissons, R.A.
(Peacock, Hodges & Robertson)
Drawn by: E. Thring.

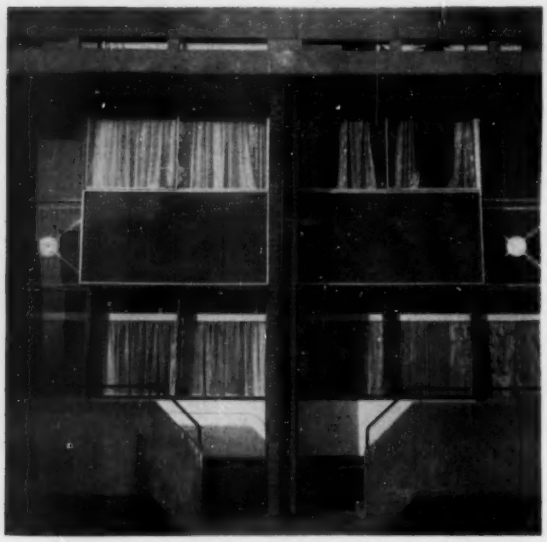
City of Birmingham: Shops at Kents Moat Estate.
Architect: A. G. Sheppard Fidler.
Drawn by: D. Jackson.

University of Southampton: proposed Women's Hall.
Architect: Basil Spence, A.R.A.
Drawn by: Basil Spence.





3-ROOM MAISONETTE



South elevation.

Show Flats

GOLDEN LANE HOUSING ESTATE

architects:
CHAMBERLIN POWELL & MOYA

WHEN complete the estate will cover 7 acres and the buildings will house 1,400 people. In addition to flats and maisonettes there will be a community centre, shops, a pub, underground car parks, sports areas and playgrounds. To avoid crowding the site, most flats have been concentrated in a point block —Great Arthur House—but all these are of the small 2-room type.

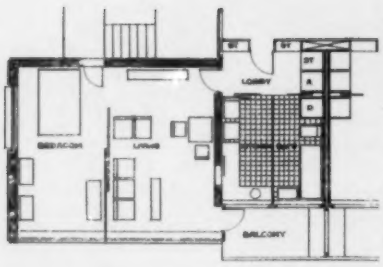
Larger family flats and maisonettes are in lower blocks of 4 and 6 storeys, providing easier access for children to the playgrounds and ground level courts.

For a recent visit by members of the Court of Common Council, some of the dwellings were furnished and a cross section of the various types is illustrated in this article.

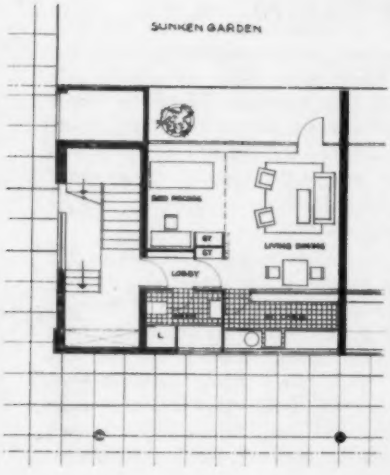
3-Room Maisonette

The top right-hand photograph ties in with the left-hand flat of the plan alongside. The staircase in this unit runs along the wall of the living area and increases the apparent size of the room. In the background is the kitchen with a serving hatch through to the dining space.

These maisonettes are in effect small, 2-storey houses built adjacent to and above one another. The privacy



2-ROOM FLAT



1-ROOM FLAT

of each dwelling is expressed in the elevations to South.

2-Room Flat

In the top right picture is a small flat that has been planned to make the best possible use of restricted space. It will be occupied by two people only and the bedroom leads directly out of the living area. The two rooms are divided by a partition half of which slides aside to throw them open as one space.

A continuous strip of glazing above the partition allows continuity of the ceiling and creates a visual impression of greater size in the small rooms.

These flat units are in the point block and are on a layout of 8 to each of the 15 floors.

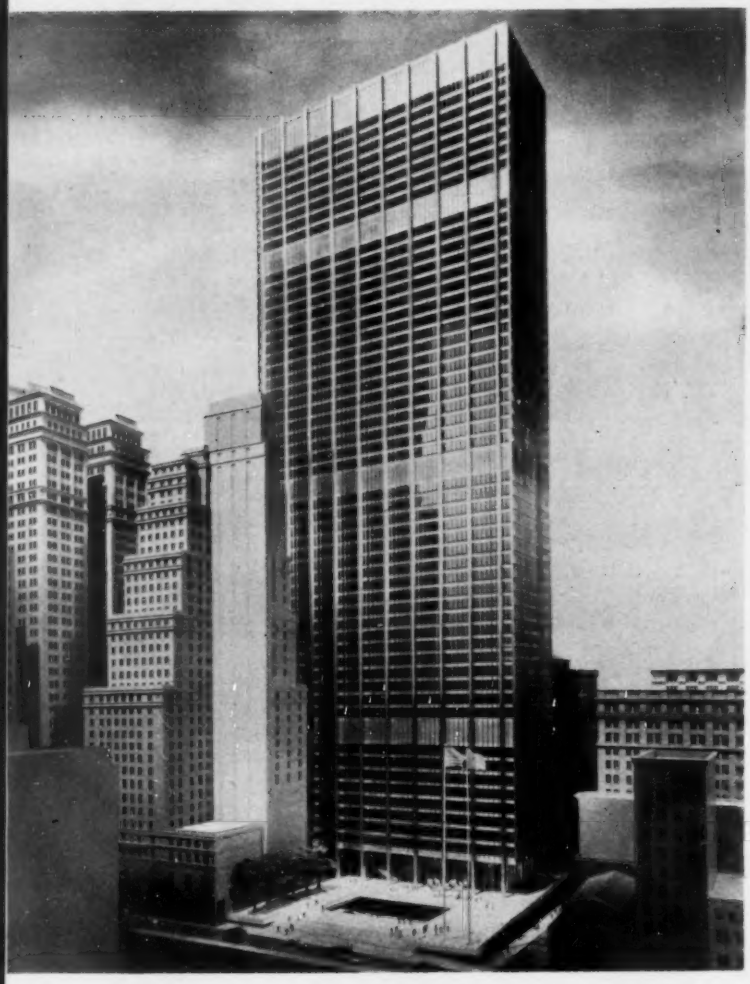
1-Room Flat

The position of these is immediately adjacent to the street and this has governed the plan layout. Traffic noise and passing pedestrians made it undesirable for them to face Golden Lane so the bed-sitting room looks inwards, over the site, and only kitchens and bathrooms face the street.

Each room has a bed recess to define the living from the sleeping area and the two spaces can be divided from each other by a curtain.

Chase Manhatten Bank's New Offices

architects:
SKIDMORE, OWINGS & MERRILL



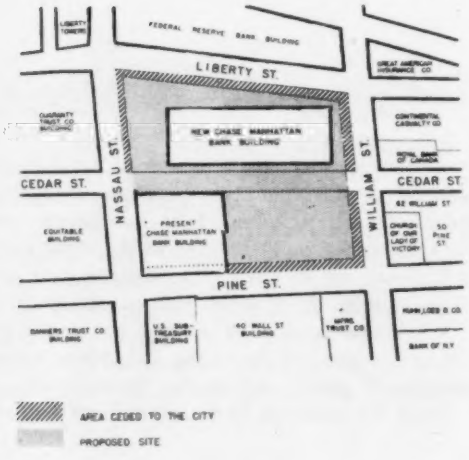
The scale model of the new offices with adjoining buildings

A SCHEME estimated to cost approximately seventy-five million dollars and which will bring under one roof the nine thousand head office employees of the Chase Manhattan Bank was recently announced in New York when plans for the bank's new head office building project were made public.

The most unusual feature of the project, which will occupy almost all of a two-block area bounded by Nassau, Liberty, William and Pine Streets, is its open plaza. The plaza covers about 70 per cent. of the 2½ acre site. Directly beneath it, but at street level on the William Street side, will be the public banking floor of the Chase Manhattan head office. Customers will look out from this floor to a sunken pool in the centre of the plaza.

Below the main banking floor will be a cafeteria and recreational facilities for the bank's 9,000 head office employees, now housed in nine buildings. Two floors below this floor will be occupied by two of the bank's largest departments, the cheque-handling and stock transfer departments, occupying 113,000 sq ft, approximately 2½ acres, on each floor.

The head office building, located on the northern portion of the plaza along Liberty Street covers about 30 per cent. of the site; rises 60 stories, 810 feet, above the level of the plaza; measures 281 x 107 feet. Its simple form has many constructional advantages, and most important each floor from plaza to roof has a uniform open plan with an area of more than 30,000 square feet.



ADMINISTRATION BUILDING, COLOGNE
for the Kaufhof A.G.

architects: DR. ING H. WUNDERLICH & REINHOLD KLÜSER

THE new building for the Kaufhof in Cologne was one of the many interesting problems which the reconstruction of this bombed city presented. The building had to serve two distinct functions. It had to house the Kaufhof combine administration and also its central storage depot. The administration building already existed on the site and has been incorporated into the new scheme.

An eight-storey high main block has been planned parallel to the existing administration building and connected to it by a two-storey wing containing on the ground floor the large assembly hall (used also for exhibitions) and on the first floor a lecture room, a conference room and ancillary offices.

The main block runs north-south, has eight floors and two basements and is connected by three four-storey links, which bridge the service road to another four-storey block parallel to the main building.

The entrance and main reception hall is on the ground floor of the main block with all the cloakroom accommodation. On the same floor also is a goods intake and goods despatch. All the technical equipment such as central heating, aid conditioning, fire control and electrical and refrigeration plants, are in the two basements, as well as the storage rooms for food, coffee, tea, etc., with a special department for wine storage. Vertical circulation throughout the building is provided by six staircases, three paternoster lifts, six passenger and six goods lifts.

On the first and second floor are offices and further storage accommodation, and the third and fourth floor offices and sample rooms, on the fifth and seventh floor the administration offices for the different branches, and on the sixth floor the kitchen, canteen and bar for the personnel and the directors' and guests' dining rooms. The roof is used as a terrace garden for the employees.

The total floor area is approximately 22,000 (square metres) the cubic content about 122,000 (cubic metres) cbm plus 12,000 cbm of the existing administration building.

The time taken for erection was twelve months.

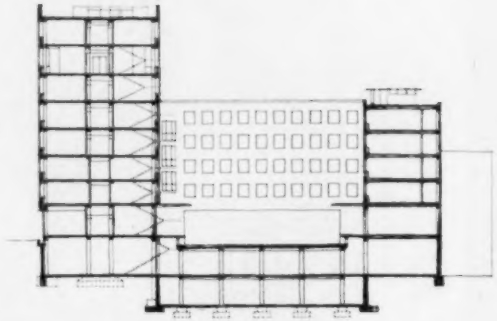
Construction

The structure of the building is in reinforced concrete. The four-storey high links connecting the main block to the lower one bridge a clear span of 25 m. The spacing of the columns in the main block is 4.95 metres from centre to centre, and the window spacing is 1.65 metres from centre to centre. The height of the main block from pavement level to the roof is 29.85 m.

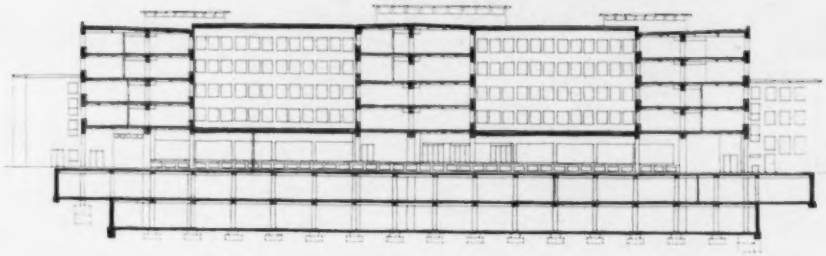
The façade is set 6.5 cm. forward of the main columns supported by the cantilever floor construction. The vertical and horizontal structure of the façade is in aluminium and the infilling between the windows consists of green wired glass, the windows are glazed in plate glass. The cleaning of the façade is done by means of a mechanical lift suspended from the roof and moving round the building on rails.

The air conditioning system is combined with the heating and cooling system throughout the building, with the exception of the reception hall which has ceiling heating. The floors in the offices differ in finish

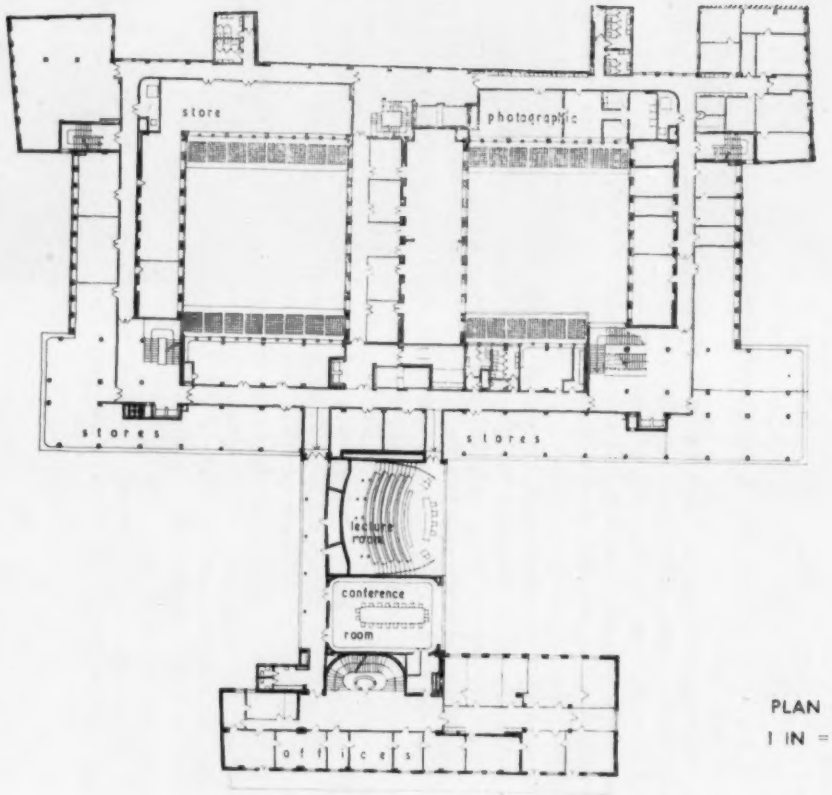
Continued on p. 532



CROSS SECTION

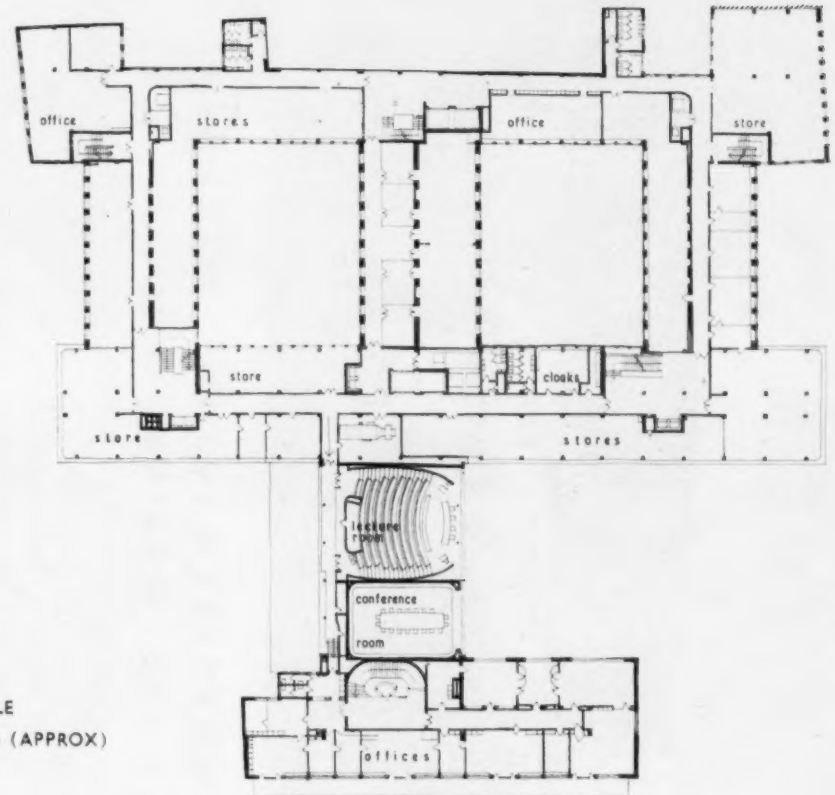


LONGITUDINAL SECTION

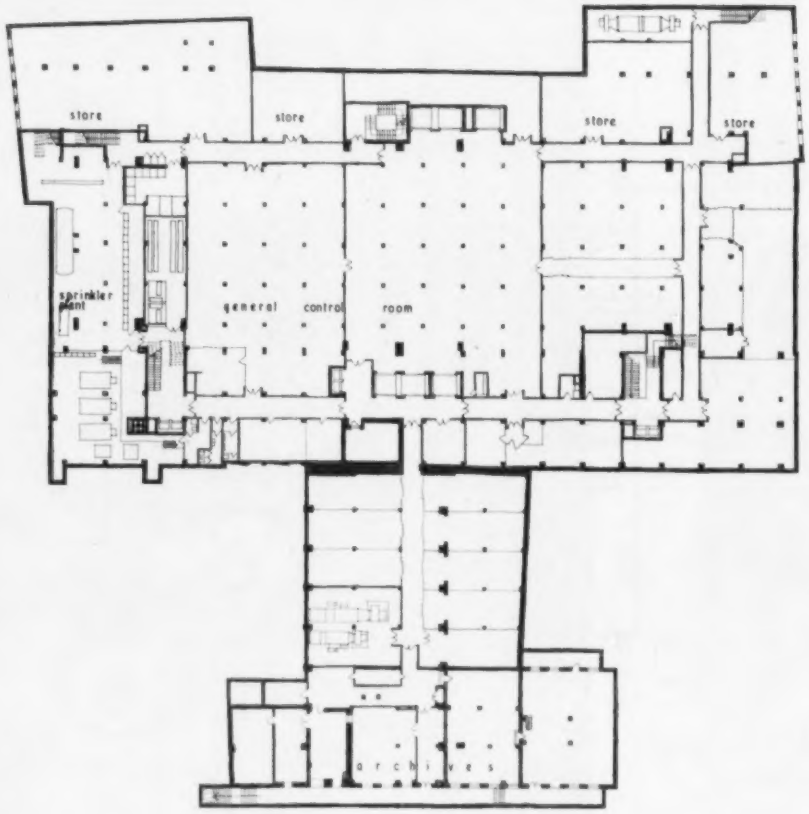


FIRST FLOOR

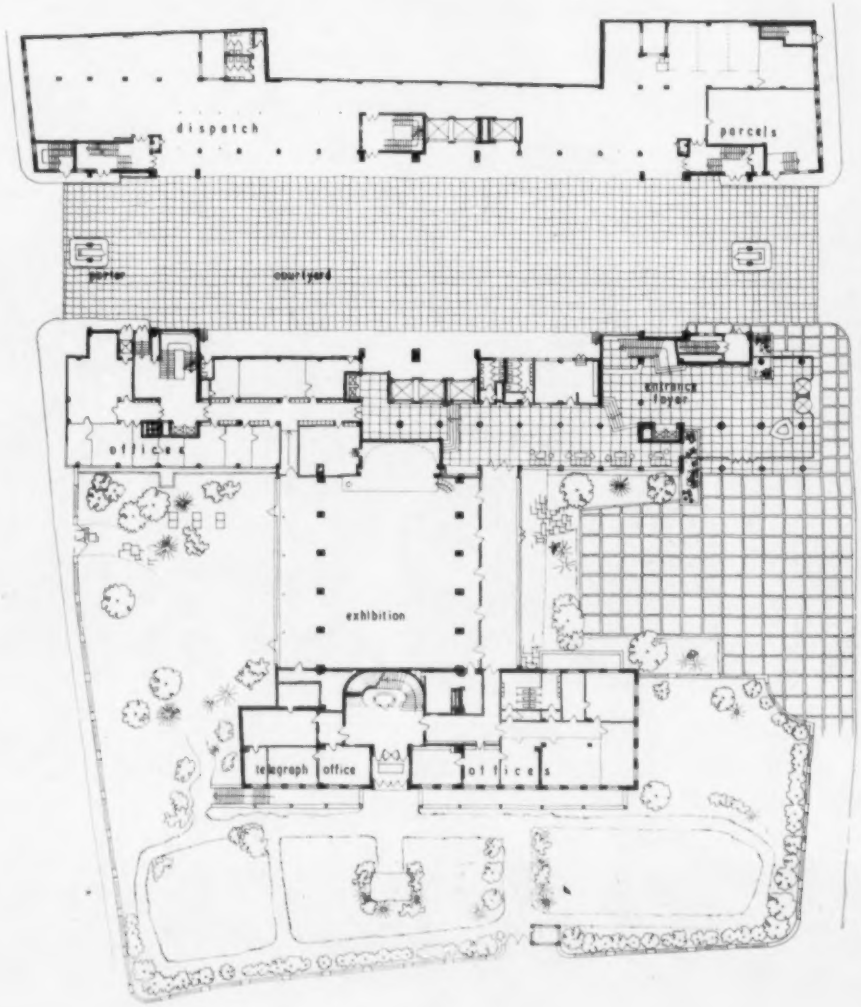
PLAN SCALE
1 IN = 20 m (APPROX)



SECOND FLOOR



UPPER BASEMENT

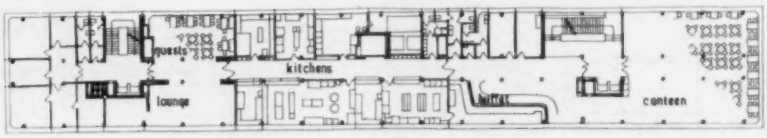


GROUND FLOOR

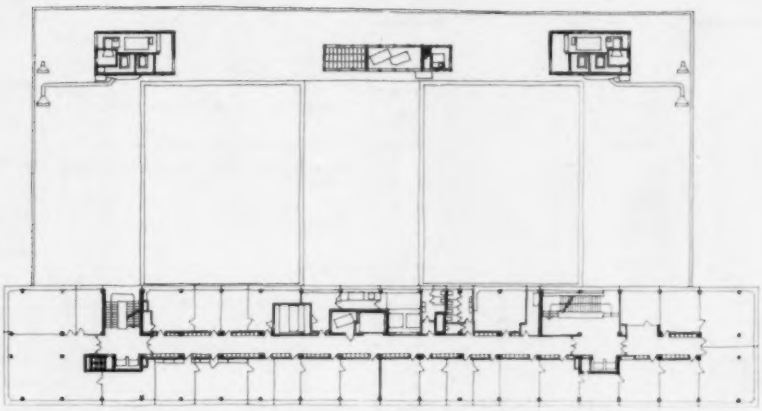
Administration Building

Cologne

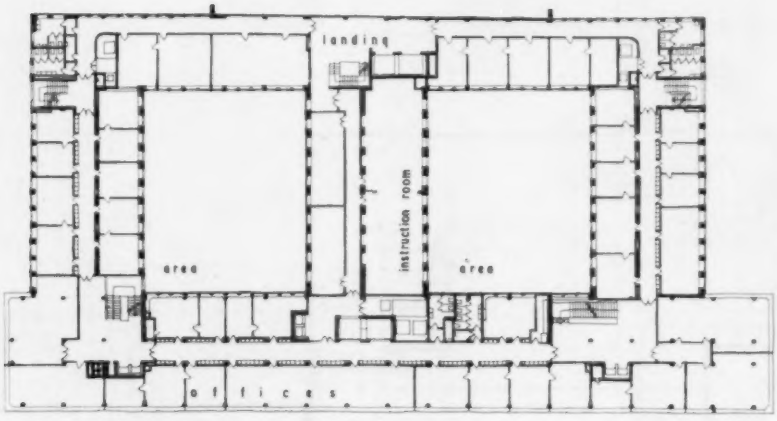
Facade detail



SIXTH FLOOR



FIFTH FLOOR



FOURTH FLOOR

associates:
HERMAN KOOP, HORST SCHWERTFEGER
site supervisors:
GEORG PRÜFER, MAX KRIEGLER

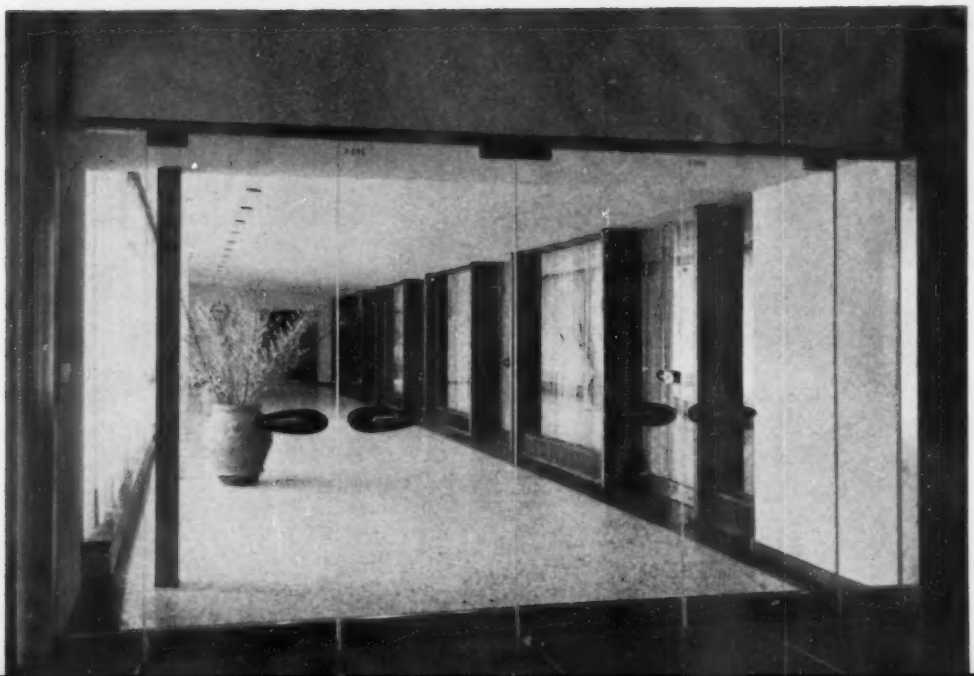
Administration Building Cologne

according to the use and purpose of the offices and are mainly a special brand of Anhydrit-finish, in the store rooms they consist of polished hard-asphalt and in the basement of tiles. All the latest technical devices are used throughout and are of the highest quality.

In planning and finish the building is an outstanding example of craftsmanship and technical efficiency. The plan which appears extremely simple nevertheless offers the greatest possible flexibility. Though a strictly utilitarian building the design of the interior is excellent and lacking all the usual over-elaboration which has become prevalent in this type of building. The impression is one of simplicity, elegance and great perception of space, form and material.

Entrance and main wing

A link corridor



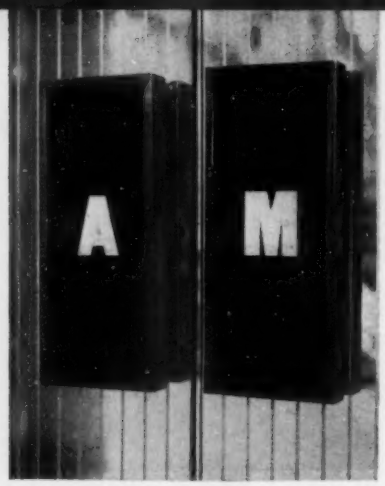
photos overleaf

Entrance foyer.

Guests' dining room.

6th floor canteen.

Foyer looking on to courtyard.



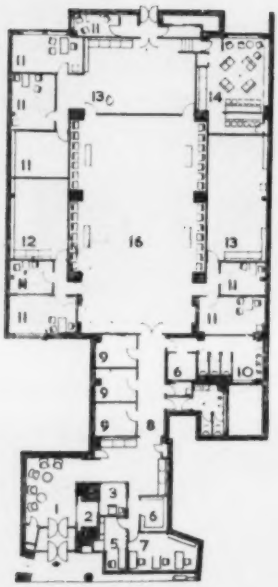
The door handles designed by Derek Mills are ½in thick glass panels framed by bronze. Glass is black painted on the reverse and incorporates a white letter with a gold leaf shadow.

London's Arthur Murray Studio

interior design: T. H. M. PARTNERS

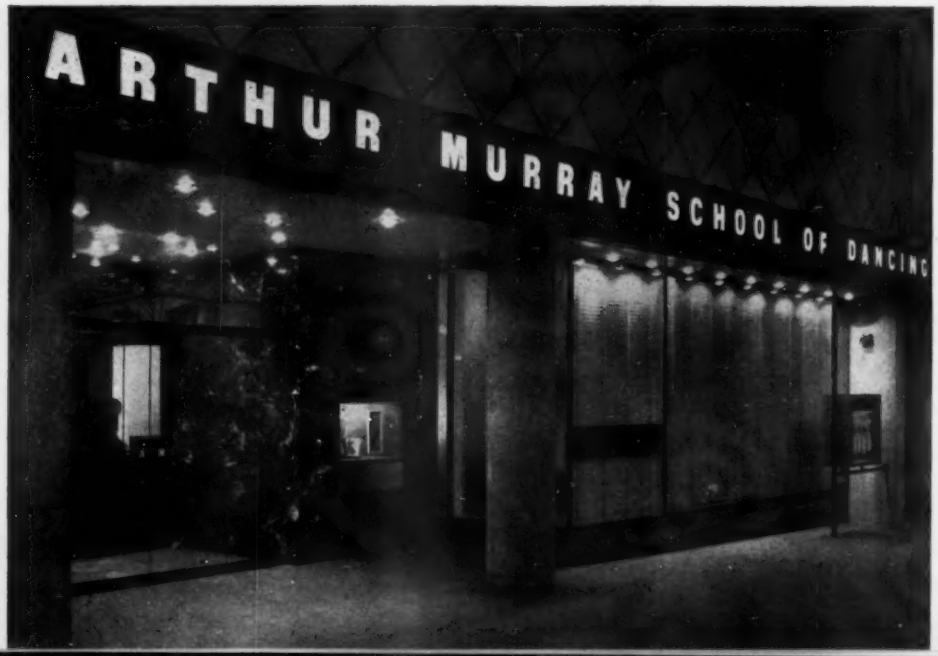
entrance facade: PETER MORO

THIS new school of dancing was opened last November, It is the first Arthur Murray School to be set up in Europe. The new school runs through from Leicester Square—its main front—to Charing Cross Road on the ground floor only. The particular teaching method of the Arthur Murray School dictated the plan form. This teaching technique revolves around "the personal approach" and to this end many interview rooms have been provided. In them the tutor (each pupil has a private tutor) instructs the pupil in the basic dance steps before moving on to the main ballroom. To create an illusion of space in the ballrooms and to allow the pupils to see their reflections as much as possible, mirrors have been extensively used and the general decor is one that induces a friendly and gay atmosphere yet formal enough to preclude any idea of a "dance hall".



PLAN AND KEY

1—Reception. 2—1st Reception Desk. 3—2nd Reception Desk. 4—Waiting. 5—Director's Office. 6—Cloaks. 7—General Office. 8—Foyer. 9—Stores. 10—Toilets. 11—Interviewers. 12—Rhythm Room. 13—Medal Room. 14—Teachers' Room. 15—Junior Ball Room. 16—Main Ballroom.



The entrance facade facing Leicester Square. Two sets of armour plate glass doors enclose a heated draught lobby; fine lines are sand blasted on to the glass. Over the door is a mirror to reduce visually the bulk of the transom. Mirror is also used in a vertical strip to isolate the marble faced reception office from the main glazed office area on the right. The glazing here is slightly obscured by acid etching except for that which carries the name of the school in bold script on a black background.

Part of the south wall of the main ballroom showing seating recesses which run almost the full length of this wall and the north wall. Contained in the recesses are ventilation ducts serving the ballroom and rooms behind it. The backs of the recesses are covered with yellow, tinsel-threaded fabric held in position by ebonized beads.

Reflected in the mirrored end wall of the ballroom is the entrance and west wall. The floor is maple strip and slotted white fibrous plaster ceiling panels have a layer of glass silk behind. Reflector lampfittings are contained within the ceiling.

The reception and main waiting area with Leicester Square in the background. The south wall is faced with Genoa marble and the reception opening and notice board are framed with ebonized brass surrounds. Draught lobby with two pairs of armour plate doors is flanked by armour plate panels.

Looking in towards the reception from the entrance is the north wall; panelled in Nigerian walnut. The fabric on the east wall is black and white and was imported from Germany. Tub chairs are covered in dark green and lemon yellow hide and the table tops are matt black formica.

Arthur Murray Studio

A view of the second reception area. The skirting is recessed and of matt black formica with a brass-strip above. The wall opposite is painted bright red and has a photomural by Roger Wood fixed against it.

Main Contractor:
David Esdaile & Co. Ltd.

Sub-contractors:

Curtains, Carpets, Matting: Made up and in some cases, supplied by Taylor & Marr Ltd. *Door Furniture*: Alfred G. Roberts Ltd. *Electrical Contractor*: J. H. Plant Ltd. *Fabrics*: Mostly continental and obtained from Primavera. *Furniture*: Conran Furniture, Ernest Race Ltd., Hille of London Ltd., Sinmar Ltd., Roneo Ltd. *Lighting*: Frederick Thomas & Co. Ltd. (Various fitments designed in conjunction with T. H. M. & Partners), Troughton & Young Ltd., Merchant Adventurers of London Ltd., Courtney Pope Ltd. *Subsidiary Telephones and other allied installations*: Standard Telephones & Cables Ltd. *Ventilation and Heating*: Matthew Hall & Co. Ltd.

A New Design Principle for Multi-storey Flats, Birmingham

A. G. SHEPPARD FIDLER, City Architect

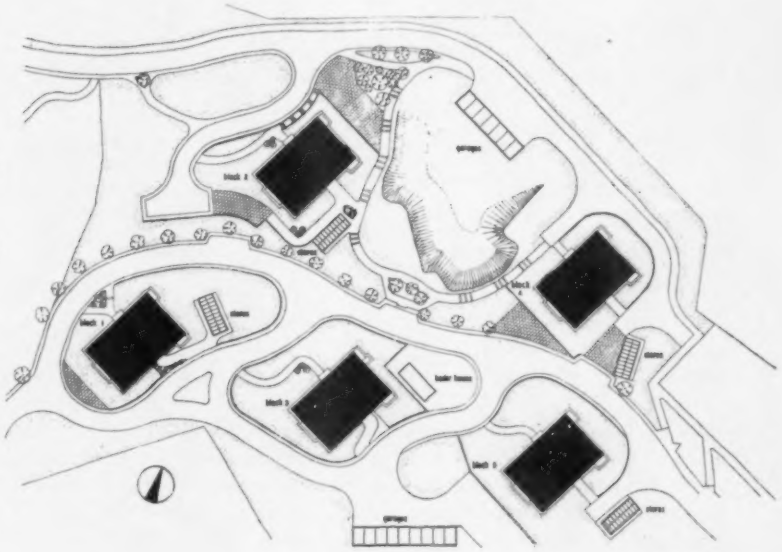
J. R. SHERIDAN-SHEDDEN, Deputy City Architect

J. W. BODDY
Principal Architect (Housing)

F. M. JONES
Assistant Principal Architect

R. R. BURTON
Group Architect

R. M. COPE
Architect-in-Charge



LAYOUT

BIRMINGHAM is about to build point block flats based on an entirely new principle. They are the result of a fresh approach by the City Architect to the problem of building economically followed by two years' development work by his Department with the collaboration of the Engineers of The Trussed Concrete Steel Co.

Return to First Principle

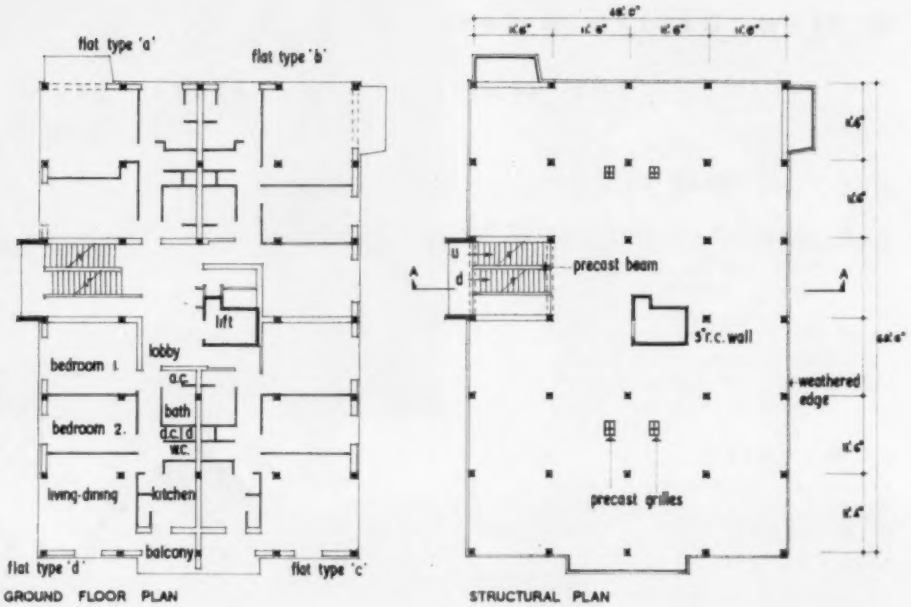
For flats, unlike that for many other buildings, an economic structural grid is useless as a planning module. The structural frame is, therefore normally "tailored" to suit the irregularities of the plan and any savings to be gained from structural standardization are lost.

The architect wished to reverse the process and to plan dwellings to fit into a regular structural frame designed, not as a planning module, but for economy alone, irrespective of internal sub-division.

The frame would be exposed on elevation as a vertical grille of columns and floor edges into which

H

Multi-storey Flats, Birmingham



GROUND FLOOR PLAN

STRUCTURAL PLAN

external wall panels of standard size would be built or fitted.

Floors with level soffits, unbroken by beam projections, would permit the free siting of internal partitions; while standard planning of the flats themselves would reduce the number of external wall panels to a few basic types. Within these limits the appearance of each block could be varied at will by selecting construction panels from any of the full range of suitable materials with their different colour, texture and pattern.

Preliminary Analysis and Planning

Preliminary analysis by the Engineers of the cost of various bay spacings suitable for the support of a rectangular block of 6, 8 or 11 storeys established that the controlling factor was the cost of the floors themselves and that maximum economies occurred with 9in x 9in columns set out on a square grid at approximately 12ft centres.

The Architects found that by slightly reducing the bay spacing, it was relatively simple to plan within such a grid.

It will be seen that there are only three free-standing columns per block, and that these are quite conveniently sited. Fire regulations dictated an increase of the overall column dimensions to 10in x 10in. At this size they could be standardized over a height of up to nine storeys.

Further research and structural tests by the Engineers led to the substitution in the final design of simple reinforced concrete "plate" floors for the composite construction originally proposed.

Once satisfied that significant economies would result, the Corporation's House Building Committee approved the erection of an experimental group of five such blocks at Millpool Hill by a nominated contractor to work in collaboration with the Engineers.

These blocks are to be 8-storeys high, without basements. They are rectangular in plan measuring 69ft 6in x 46ft 10in overall. The structural plate floors of *in situ* reinforced concrete are only 5in thick with precast projecting balconies in waffle slab construction for lightness in lifting.

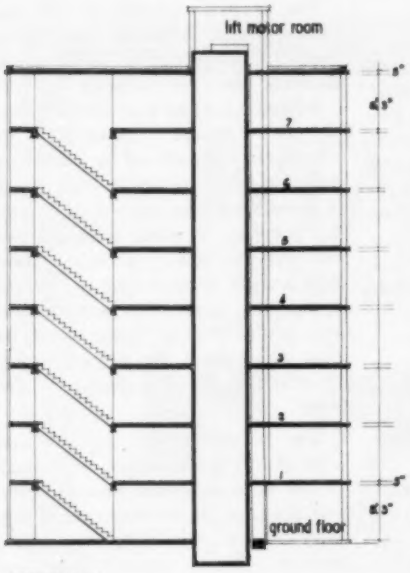
The basic structural grid for the columns is 11ft 6in. The buildings will rest on strip foundations. Each block will contain 23 two-bedroom, 4 person and 9 one-bedroom, 2 person flats, with four dwellings per floor grouped round a central core containing the entrance, scissor staircase and public circulation areas.

Here the reinforced concrete lift shaft walls serve as a structural element in the design.

Internal partitions are in non load-bearing blocks with wet finishes, while on the external walls, panels in cavity brickwork alternate with built up window panels with stallboards of coloured glass.

The buildings are ranged up and down a steep slope which precludes the use of an external tower crane, but each lift shaft is so proportioned that it could take a climbing crane to handle the Engineers' standard shuttering and materials, while temporary timber staircase treads spanning between the permanent precast stair carriages will be used for workmen's access during construction.

Central heating and hot water to the whole group will be provided from an oil-fired plant in a separate boiler house. 16 garages are also included in the contract for which the accepted tender figure including roads, site works, and landscaping, is £365,004.



SECTION A-A

Perspectives of the flats

Better Concrete

SINCE its rediscovery in modern times cement has played an increasing part in modern construction until today a shortage of cement supplies is of national importance.

With the importance of economy in any operation today considerable thought has been given to accurate design and to improving the strength of the concrete without increasing the cement content. Two ways of improving the strength and durability of concrete have recently come into prominence both in the United States and in Europe, they are firstly the inclusion of a limited quantity of air in the concrete mix and secondly the removal of the excess quantity of air over that required for hydration from the mix by means of vacuum processing mats.

Air included in the concrete mix causes two main effects, an increase in workability and a reduction in the strength of the concrete. This latter disadvantage can be overcome by redesigning the mix to take advantage of the increased workability to reduce the water content.

To obtain the maximum strength the water content is, in this country, reduced to a minimum but often to obtain good consolidation the concrete mix must be made wetter than usual for intricate reinforced concrete work. It is in this instance that vacuum treatment is most useful.

A great many agents may be added to the concrete to produce air within the mix but the original air entraining agent was a Vinsol resin. One account of the origin of the process is that the durability of certain stretches of concrete road was traced to cement containing a certain amount of bearing grease. Another is that Vinsol resin was distributed to a number of users and a cement manufacturer first noticed the value of air entrainment.

Since that time a great number of materials have been found to possess this property of causing air bubbles to form in the concrete. They include natural wood resins, animal and vegetable fats, various wetting agents and many substances such as hydrogen peroxide and aluminium powder.

Of course the amount of air within the concrete must be strictly controlled as too great a quantity of air will weaken the concrete whilst too little will not give the desired improvement of the concrete. The usual amount of air is in the region of five per cent. by volume and careful control of the amount of air-entraining agent added is very necessary.

For small jobs the agent may be incorporated in the cement and if the specified mix proportions are adhered to the air content will be approximately correct. With larger works the quantity of agent must be adjusted for greater accuracy according to the nature of the aggregate. Once the quantity is determined it may be automatically measured by a dispenser attached to the mixer.

The amount of agent required cannot be accurately calculated and the best procedure is to determine the amount experimentally by testing the air content.

There are three general methods by which the air content of concrete may be determined. These are, the gravimetric method, the displacement or volumetric method and the pressure method.

The gravimetric method is a simple application of the principles of measurement. The density of a known volume of concrete is obtained by weighing and this density is then compared with a theoretical one obtained from a knowledge of the densities of the constituents and the mix proportions. Disadvantages in this method can be easily seen, the compaction of the concrete may vary and there is little certainty that the mix proportions are accurately represented in the sample. On the whole the method is most easily carried out in a laboratory. For these reasons one of the other methods is generally employed.

With the volumetric method the air in the concrete is measured directly. A vessel of known volume is filled with water up to a standard mark and the air contained in the concrete is then expelled by agitation. Water is added to make up the volume to the standard amount, the volume of water added being noticed. From these readings the air content is easily discernible. It is usually rather difficult to remove the whole of the air and equally difficult to observe when the removal is complete. Care is of course required with this type of apparatus but it has been used in America with success.

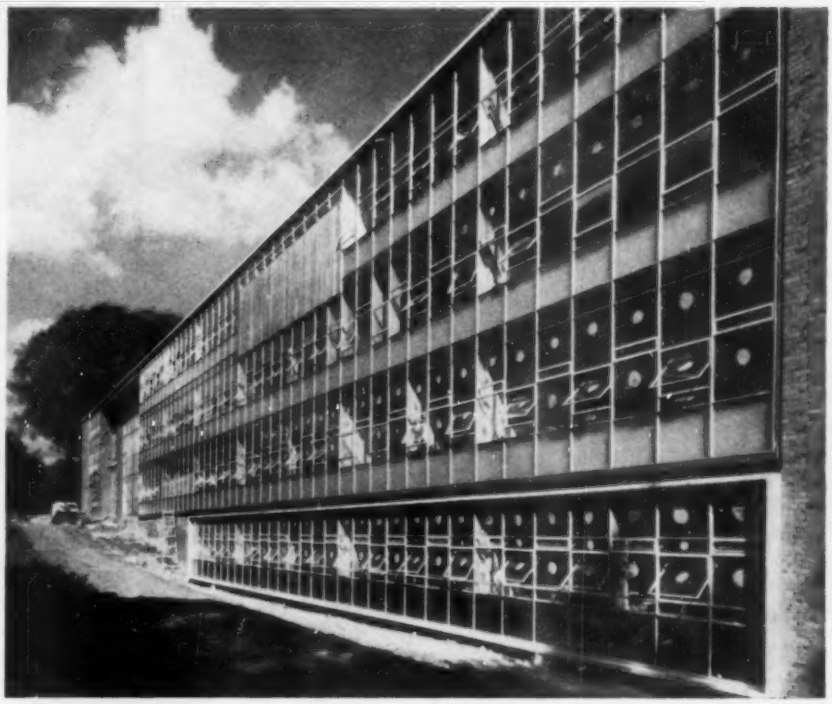
The pressure method in determining air content is the one most widely used. The principle used is the decrease in the volume of the entrained air when pressure is applied to the concrete. Essentially the instrument consists of a cylindrical metal container in which the concrete is placed and then tamped in a standard manner. A cover is placed over the container and air pressure applied with a small pump similar to a bicycle pump. A standard pressure is used and as the level of water which has been added drops, the air content may be read directly off a graduated glass tube.

The introduction of air into concrete results in a reduction of strength. It has been estimated that for every one per cent. of air entrained in concrete above that naturally present there is a loss of strength of approximately five per cent. If however the mix is redesigned to take account of the reduction of water possible by the increase of workability and the fine aggregate reduced in proportion to the amount of air introduced it is possible to regain nearly the whole of the strength lost. On account of the detailed procedure for redesigning the mix would be out of place here but those interested are referred to the paper presented to the Institution of Civil Engineers on the subject by P. J. F. Wright, B.Sc. It is of course no less important with air-entrained concrete than with ordinary concrete that the mix be designed scientifically and supervision exercised to see that it is carried on when concreting takes place on the site.

Together with the reduction of strength, air entrainment also causes a great improvement in workability and creates a change in the pore-structure which gives the concrete greater workability. Various other minor improvements have also been claimed in the behaviour of air-entrained concrete.

Concrete with air entrained in it has a plastic feel when it is worked. This increase in workability allows the water-cement ratio to be reduced. Whilst it is the usual practice in this country to keep the water content as low as is possible, it is often necessary to use a wet mix to surround intricate reinforcements. In the United States of America where mixes of a greater slump are used this effect of air entrainment was particularly wel-

WINDOGRID
Curtain Walling



PARLIAMENT HILL

COUNTY SECONDARY SCHOOL FOR THE L.C.C.

J. L. MARTIN M.A., Ph.D., F.R.I.B.A., ARCHITECT TO THE COUNCIL

PHOTOGRAPH SHOWS 8,700 SQ. FT. OF *WINDOGRID* ON THE WEST ELEVATION.

A TOTAL AREA OF 20,000 SQ. FT. HAS BEEN INSTALLED IN THIS SCHOOL.

Send for List 295

HENRY HOPE & SONS LTD

Smethwick, Birmingham & 17 Berners St., London, W.1

MEMBER OF THE METAL WINDOW ASSOCIATION

Cacti in peculiar pots and strange shaped chairs have raised many an eyebrow.

But contemporary décor also needs modern paints—beautiful, fashionable pastel shades; paints that could not exist without Titanium Oxide, the whitest pigment known. Paints based on Titanium Oxide stay brighter longer, do not crack or flake and are unaffected by smog. It pays to remember that these modern paints need fewer coats, thanks to the extraordinary covering power of Titanium Oxide.

BP TITANIUM PIGMENTS

Issued in the interest of better paintwork by

BRITISH TITAN PRODUCTS COMPANY LIMITED
COPPERGATE
YORK

Factories at Grimsby and Billingham and at Burnie, Tasmania. Agents in most principal countries.

Better Concrete

comed. In a paper read before the Institution of Danish Civil Engineers, Heilmann gave his explanation of this effect. The minute air bubbles act like a fine elastic aggregate of an average diameter of between 0.1 and 1 millimetre. The air bubbles are spherical and have thus a shape most suitable for elasticity, a property which is also enhanced by their surface tension. Heilmann likened the air bubbles to ball bearings in that they reduced the internal friction of the concrete.

The modification in the pore structure which has just been mentioned also results in a reduction of bleeding. With flat slabs bleeding causes the liatence which collecting on the slab surface is easily damaged by frost action. It was with concrete road slabs constructed of concrete with a high water cement ratio that the benefits of air-entrainment were immediately obvious in the United States of America. In this country our drier mixes do not suffer from this damage. It has been suggested that this frost attack resistance is due to the fact that the capillaries formed near the surface of the concrete are in air-entrained concrete connected to an air bubble. When water which has penetrated this capillary expands upon freezing there is room in the air void for the increase in volume. Thus disintegration of the surface does not take place.

Another effect which air-entrainment has is on the bond strength of reinforced concrete. Opinion appears to be divided as to whether it is reduced or is not materially effected. Air bubbles between the steel and concrete would tend to impair the bond. On the other hand if bleeding occurs under horizontal reinforcement air-entrainment will reduce this and maintain the bond strength. There has been no indication that air-entrainment affects the impermeability or the shrinkage of the concrete.

Vacuum Treatment

First operated on a practical scale by Karl Paul Billner during 1935 the process was given this name by newspapers when the method was first exhibited at Yale University. Since that time vacuum treatment has been used extensively in very many parts of the world.

Water is removed from the concrete by processing mats which may be incorporated in the formwork or else applied to the upper sections of such flat sections as road slabs. The vacuum mat consists of a flexible or rigid airtight cover taking the place of normal shuttering and around whose edge an airtight seal is placed. Beneath the cover is a layer of expanded metal and a sheet of fine wire gauze covered with a filtering fabric. This filtering fabric comes into contact with the concrete whilst the expanded metal and fire wire gauze forms a passageway for the removed water. A vacuum pump applies the atmospheric pressure to the concrete, the water being prevented from reaching the pump by a separator.

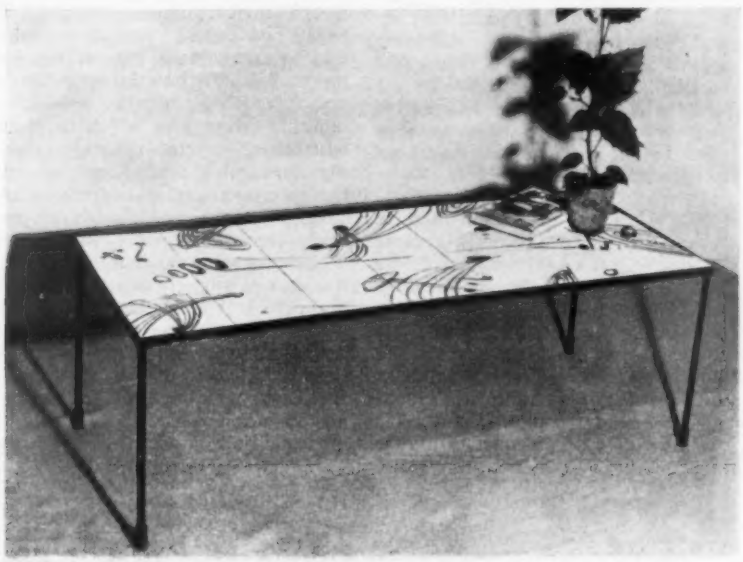
As well as the advantage of being able to obtain a more workable mix with a reduced water content and thus increase the strength of the treated concrete or reduce the cement content there is the advantage of faster removal of formwork. Remarkable results have been achieved in this direction and in one instance it was found possible to strip vertical formwork to a height of fifteen feet after only twenty minutes of processing.

Length of time during which the vacuum is applied to the concrete varies considerably as does the actual amount of vacuum required. In a typical instance treatment was carried out for between twenty and thirty minutes with a vacuum of between twenty and thirty inches of mercury, although allowance must be made for leakages in the pipe lines and in the processing mats.

In many areas throughout the world vacuum concrete has found a great variety of uses and combined with the vacuum lifter a rapid turnround of formwork has been possible. The vacuum lifter is simply one or more large suction pads which by exerting their pull over a large area make it possible to lift sections which have not gained a great deal of strength.

It is true to say that whilst concrete has found very many applications the new opportunities opened by these two techniques have widened this field, particularly in the precast concrete industry.

Equipment for vacuum treatment for concrete is marketed in this country by Messrs. Millars' Machinery Co. Ltd.



Tile Table Tops

A new table designed and made by Jerzy Kolodziej, a member of the Chelsea Potteries Group. He uses ordinary glazed wall tiles of any colour glued to an asbestos backing sheet. Some tables have different size and colour tiles let into the surface and others are painted by the artist with patterned designs of enamel glaze which are later baked and thus completely unscratchable. The tables are 14in high and have ½in M.S. angle around the edge welded to ½in dia. steel legs. Cost is 12 gns.

Defective Timber and Joinery

WHENEVER I look at new buildings, especially houses and flats, I always seem to find complaints from the architects or owners about the poor quality of the woodwork. There seem to be several causes of these complaints, not the least of which is, of course, due to price cutting although one must also have the feeling that it is partly lack of knowledge, but whenever the attention of the builder is drawn to warped twisted or poorly surfaced woodwork the same reply is nearly always received, namely "the timber we get is not like it used to be".

I am sure that this excuse is quite untrue; the poor quality timber is merely the result of the low price which the builders seem prepared to pay because they mainly tend to buy as cheaply as they can, almost regardless of quality and particularly the dryness of the timber. At timber merchants' yards I see continuously stocks of perfectly satisfactory timber which is as good as one ever saw before the war, but understandably it is more expensive than the less good material also seen in the same yards. What the builders seem to forget is that before the war there were the same less good quality supplies but it was not then their custom to use them for joinery purposes. Much of the blame is, I fear, because architects and clerks of work are not insistent enough on having bad woodwork replaced.

Not nearly enough interest is taken in the dryness of timber when it is used. Some timber merchants seem unwilling to supply timber which has been dried down to the level of moisture content recommended widely in recent years by so many authorities as likely to overcome much of the subsequent defective woodwork. Suitable moisture content values for difficult applications are given in B.S. for timber components and especially in B.S. 1186 "Quality of timber and workmanship in joinery" and also in Codes of Practice.

I would like to refer to several recent instances where an architect friend asked me to look at some houses. Firstly I looked at some wide long teak draining-boards which had just been installed. I commented at the time that the teak looked whiter than I had ever seen before, which seemed to indicate that it was very freshly cut and possibly rather "green" so I suggested we should borrow a moisture meter and test them together. This we were able to do, with the result that we found them to have a moisture content of between 23 and 24 per cent. and consequently it seemed extremely probable that considerable shrinkage would take place, particularly as the buildings were centrally heated. A further point we noted was that the considerable width of these draining-boards, about 3ft from back to front, had been obtained by jointing the boards together, with loose tongues, and securing the boards by tight-screwing them through battens on the backs. I was invited some six months later to look at these draining-boards. They were severely split in a number of places in their widths, not only at the joints but in the boards themselves, with cracks varying in width from $\frac{1}{4}$in to 3/16in wide, and the owners told us that the splitting occurred from time to time with extremely loud cannonlike reports. Much, if not all, of the splitting would, of course, have been avoided had the boards been fitted to the battens by slot-screwing to permit movement but nonetheless that would not have prevented the overall reduction in width so that the overhang of the front edge beyond the under cupboard fronts would have vanished. This seemed to be a typical example of bad workmanship as well as the use of unsuitably seasoned timber.

In the same buildings certain of the floors were of timber construction. It was very obvious that the joists must have been far from suitably dry when they were installed, or were put into place and allowed to become very wet, as the floors had dropped between $\frac{1}{4}$in and $\frac{1}{2}$in from their original upper levels, as was shown by joints between such fittings as baths and wall tiling applied to structural walls. There was no justification in this instance for the joists to have become unduly wet as they need not have been installed until the flat concrete roofs had been completed.

The speed of construction in some instances leads to difficulties because woodwork has to be installed before buildings are in a fit condition to receive it, especially finishings, but on the whole it does not seem to me that buildings are now being completed quite as rapidly as was normal prior to the war. Most traditional methods of construction require considerable quantities of water in concrete, mortar and plaster and consequently should be given much longer construction times than may be necessary with a number of the non-traditional methods. If therefore speed is important it seems that we should change to those methods which provide as dry forms of assembly as possible.

Returning to the dryness of joinery I am sure our builders should follow the lead given by certain of the large joinery manufacturers and furniture makers, who use kiln-dried timber, which they either buy kilned or kiln it themselves down to moisture contents to suit the particular type of building component. I was very interested to note when going round a very large furniture maker's factory that after kilning but before being cut up every board was passed by inspectors on conveyors and each board was checked with a moisture meter to ensure that it had a moisture content between 12 and 14 per cent. and any which did not were rejected and returned for further drying.

Has not the time come when, to avoid excessive movement in timber, which causes not only bad appearance but complaints from clients, we should all insist that all timber used is suitably dried for its purpose and is properly looked after when it arrives on the job. It is very distressing to see, and it must be even more distressing to the joinery manufacturers, doors windows, linings and mouldings badly stored on sites and often without priming or protection while awaiting use. A simple code of practice on this subject ought to be prepared by the B.S.I. Joinery Committee to set out the information and guidance which is so obviously lacking on so many sites. Further, architects' specifications could refer to such a code and could include suitable clauses on moisture content requirements. I wonder how many architects and clerks of works possess a moisture meter with which to check whether or not the timber on their sites is suitably dry. Simple electric moisture meters are not expensive, are easy to operate and although not precisely accurate they work to an accuracy good enough to ensure that the work is properly done. I am sure the present bad standard of woodwork will get worse if architects do not get "tough" and reject more of it. Much work does not fulfil its specification requirements so there is no reason for builders to ask for more money if it is properly done. Some

To see inside—is to be inside

Many devices have been used to encourage people to "step inside". But nothing does it so gracefully and effectively as "Armourplate" Glass Doors. They add so much to outward appearances and act as an entrancing visual link between inside and out. So easily kept clean, "Armourplate" Glass Doors are always the most inviting entrances.

The standard height of "Armourplate" Glass Doors is 84" and they are made in standard widths of 30" and 36". Non-standard sizes can be made to order. Fittings, in a choice of finishes, and handles, in several styles, are supplied complete with the doors.

"ARMOURPLATE" GLASS DOORS

PILKINGTON BROTHERS LIMITED

CONSULT THE TECHNICAL SALES AND SERVICE DEPARTMENT AT ST. HELENS, LANCS., TELEPHONE: ST. HELENS 4001; OR SELWYN HOUSE, CLEVELAND ROW, ST. JAMES'S, LONDON, S.W.1., TELEPHONE: WHITEHALL 5672-8. *"ARMOURPLATE" is a registered trade mark of Pilkington Brothers Limited. Supplies are available through the usual trade channels.*

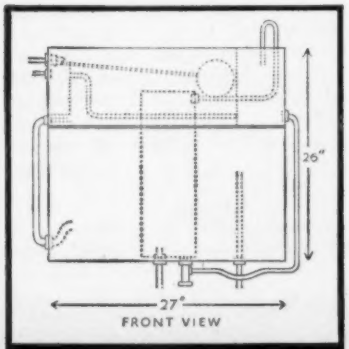
ADA17

Demountable partitions by Compactom Ltd. on the Fourth Floor, Time and Life Building W1 *Architect: Michael Rosenauer F.R.I.B.A.*

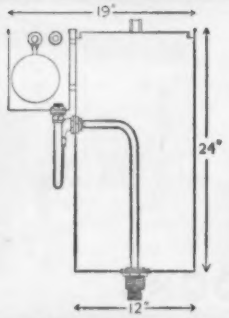
When you decide to divide . . . . you'll find the most suitable materials and finishes for all requirements combined in Compactitioning — the complete, individual service of

COMPACTOM PARTITIONING

Write for full details to ..... **COMPACTOM LTD., OXGATE LANE, CRICKLEWOOD, LONDON, N.W.2**
Telephone: GLAdstone 6633 (3 lines)



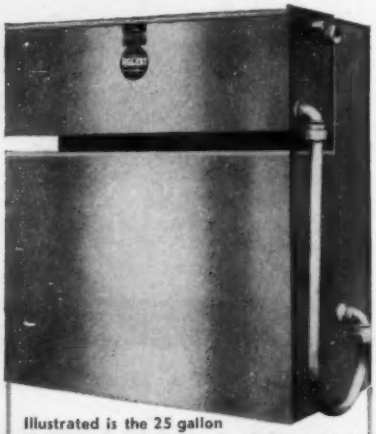
THE CALORIFIER



THE DURHAM

A BIG saving on installation costs

Rolyat tanks represent a saving all along the line, quite apart from the extra quality which is built into them. Special tanks are made for awkward situations at no extra cost, and an advisory service is at your command for any installation. They are specified by local authorities, Architects and Heating Engineers throughout the country.



Illustrated is the 25 gallon "Rolyat" recessed "Durham" tank. Please send me details of the range of "Rolyat" tanks.

NAME _____

ADDRESS _____

_____ A/1

ROLYAT TANKS PATENT HOT WATER

THE ROLYAT TANK CO. LTD. CROMWELL RD. YORK

Defective Timber and Joinery (continued)

builders manage to provide good woodwork so why should not the others. The alternative seems to be to omit woodwork from the main contract and insist that it is done by sub-contractors who will give an assurance of proper quality and conditions of timber and workmanship.

In the houses referred to earlier there were many cupboards and fitments made by the builder. They were as poor as any I have ever seen and I regret that this was partly due to the inadequacy of the architects specification and drawings as too much was left to the builders' discretion although when there were fairly adequate drawings the builder seemed quite unable to make to the dimensions given but I fear the architect had become tired of complaining and did not reject the work as he certainly should have done. I noticed cupboard doors as large as 6ft 6in by 2ft 9in, made, I understood, on the job, of two sheets of extremely thin hardboard on a framing consisting of 2in x 1in with two similar sized cross members in the height. The hardboard was merely pinned on so that not only had the doors twisted away from their frames by as much as one inch but every pinhead was showing as a bump on the painted faces. The cupboard framing was also cut and made up by nailing on the job and now looks dreadful.

The room doors were equally bad. They came from a quite well-known joinery firm. Every door was twisted, some very badly and the surfaces were as rippled as I have ever seen on flush doors. When a complaint was made it seems that the firm said they would replace the doors but when asked, as seems reasonable, to pay for hanging, fixing locks and painting the replacement doors they said they would only accept responsibility for replacing doors and I gather the argument continues. If this is, as I believe it is, the custom of the door trade their much advertised guarantees are quite useless as it seems unreasonable to expect builders, many of who handle doors properly, to bear any costs other than those of the doors themselves as the cause of replacement is not the fault of the builders. Builders tell me that this non-acceptance of the associated costs is the reason why door makers receive few complaints although in fact there are many doors which are not nearly as satisfactory as the door makers believe them to be.

DUTCH UNCLE

Industrial Notes

● Expandite Limited announce the following appointments and changes in designation: T. G. Grant, Sales Office Manager, to be Home Sales Manager; R. A. Bickham, Technical Representative, to be Area Manager; K. G. Whittle, Technical Representative, to be Area Manager.

● To make the general public more acquainted with the unique properties of lead, the Lead Development Association is issuing a series of brochures for general distribution. The titles so far published are, "Lead Paints Today," "Lead in Cable Manufacture," and "Lead for Batteries." Printed in two colours on art paper, and graphically illustrated, the brochures describe in simple, easily-read terms, the use of lead for each specific product, and explain why lead is the ideal component. The brochures are available from the Lead Development Association, Eagle House, Jermyn Street, London, S.W.1.

● The new address of The Minerva Detector Company Ltd. is Lower Mortlake Road, Richmond, Surrey. Richmond 6431.

● The British Electrical Power Convention returns to its birthplace, Torquay, for its eighth annual meeting from 23rd to 29th May, under the Presidency of Sir John Dalton, M.I.E.E., F.C.I.S., Chairman, W. T. Henley's Telegraph Works Co. Ltd. The Convention proceedings will take place in the Pavilion, except for the sessions on Monday, 28th May, which will be held in the Town Hall. The theme of the 1956 Convention is "Electricity and Transport" and nine Papers are to be delivered on various aspects of the question. In addition there will be one Paper with a domestic theme — "The Electric House," and this will be fully illustrated by the special all-electric bungalow which is being erected at Torre Abbey Meadows by the Electrical Development Association. The Convention is representative of all the principal organisations, 38 in number, connected with the British Electrical Industry and is a direct successor of the Incorporated Municipal Electrical Association's Convention, whose 52nd and last meeting was held in Eastbourne in June, 1948. The Electrical Exhibition, which is one of the main features of this annual Convention, promises this year to be of more widespread interest than ever. The Exhibition, which will cover an area of about 34,000 square feet, will be under one roof, and will be the biggest Exhibition yet associated with the Convention. Thirty-three ceiling fans will ensure comfort for visitors. Altogether 88 manufacturers of electrical equipment and electrical organisations will have stands. The Exhibition, which will be officially opened on the night of Wednesday, 23rd May, by Sir John Dalton, President of the Convention, will be reserved for delegates on Wednesday and Thursday, 23rd and 24th May. On Friday, Saturday and Monday, the Exhibition will be open to the public, free of charge, from 10 a.m. to 9 p.m., and on Tuesday from 10 a.m. to 1 p.m.

● Charles J. King, B.Sc. (Eng.), A.M.I.E.E., has been appointed to the newly-created position of Midlands area manager of Lumenated Ceilings Ltd. Until suitable showrooms are obtained in the Midlands, he can be contacted through the Birmingham Engineering Centre and Exchange (Stephenson Place, Birmingham. Telephone: Birmingham Midland 1914). For the past five years Mr. King has been in private practice as a consulting engineer, and editor of the "Scottish Electrical Engineer."

● The extensive range of Mazda, Royal "Ediswan" and Metrovick candle lamps have been reduced in price by the A.E.I. Lamp and Lighting Co. Ltd. The reductions range from approximately 20 per cent. to 33 per cent. throughout the range.

● Another Production Exhibition and Conference will be held in the Grand Hall at Olympia from 23rd May to 31st May, 1956. The purpose of the Exhibition is to show some of the research and development which lie behind Britain's production achievements. The emphasis will be on improvements in productivity which result in a higher standard of living. Attention will be directed to improve human relations. The Exhibition offers an opportunity for firms and organisations to show how their own productivity has been raised, or to show how the application of their work or of their products have improved the productivity of other organisations. The Exhibition is not a "trade show" and has the support of Government Departments, the Department of Scientific and Industrial Research, the British Productivity Council, the Trades Union Congress, the British Standards Institution, and many other organisations concerned with improved productivity. The European Productivity Agency will participate in the 1956 Exhibition and Conference and many foreign visitors are expected. The main sections of the Exhibition will be: Research and Development, Materials, Information, Training and Education Methods, Human Relations and Welfare Services, Aids to Production, Automation.

● Over 4,000 miles of Stramit building and insulating slabs were despatched from the Stowmarket factory of Stramit Boards Ltd. during the year ended March 31st, 1956. These slabs—over 15,500 tons—were used on a wide range of buildings in this country, from Atomic establishments to farm buildings. Abroad, British-made Stramit was exported to Ethiopia, Cyprus, Hong Kong, Burma, Rhodesia, etc., for use in the construction of Technical Colleges, Offices and Exhibitions.

● At a meeting of the board of directors held on April 24th, Mr. D. R. Mackie was appointed managing director of Monsanto Chemicals Limited. Mr. Mackie, who has been acting managing director since November, 1955, was appointed a director of the company in 1952 and commercial director in 1953. In May of this year he will have completed 32 years' service with the company.

NEW PRODUCTS

The recently introduced Waterfall edge belt sander, Fig. 1 has been designed to carry out the sanding of radiused edges, before and after veneering, inside and outside profiles, with a very high standard of finish. By Interwood Ltd., 263 Old Street, Shoreditch, E.C.1.

★

Bench, bottles and vice in one single mobile unit, Fig. 2, comprises the latest piece of welded equipment by Croftshaw (Engineers) Ltd. It should speed up many site welding operations with consequent economy.

★

A new 6 in portable circular saw attachment, named the "Nu-Rip" has been introduced by S. N. Bridges & Co. Ltd., as an accessory to the tool power range powered by the Tool-Power General Purpose control, Fig. 3. It includes a rise and fall and a mitring gauge.

★

To serve as a key for flashing in a concrete parapet of a new asphalte roof, a groove 1in wide and ¾in deep approximately 5,000ft run was cut with a Wolf 10in portable electric saw mounted in a three-wheeled cradle, Fig. 4. Two cuts were made above and below the groove, the material being easily removed with a cold chisel afterwards. By Wolf Electric Tools Ltd.

★

Black and Decker Ltd., has produced new models of heavy duty portable electric saws designed for a variety of uses in addition to carpentry. Made in 6in and 7in sizes. Fig. 5. They include blade guard and built-in bevelling and depth cutting adjustment.

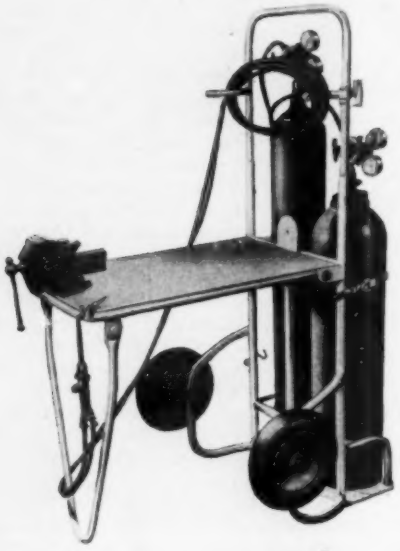
★

The Danarm range of portable power chain saws has been greatly expanded and improved in recent months by the addition of two new one-man petrol and two one-man electric saws, Fig. 6, by Clubley Armstrong Danarm Ltd. Guide blades from 3ft 3in to 7ft can be fitted.

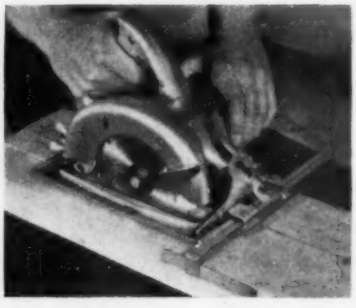
★

The "Galmec" grout pump, produced by General Mechanics Ltd., of West Bay Works, Bridport, Dorset, has been designed to mix 11 gallons of grout and inject into cable ducts at a pressure of 30-40lbs per sq in by way of a flexible hose. Fig. 7.

1

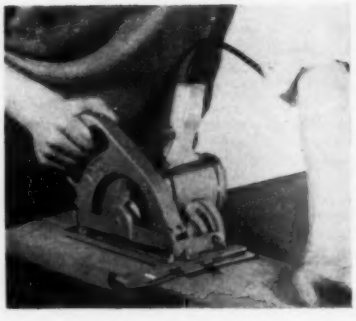


2

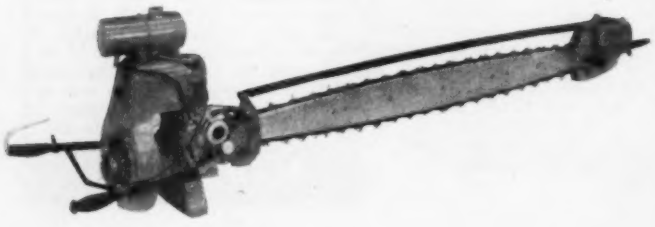


3

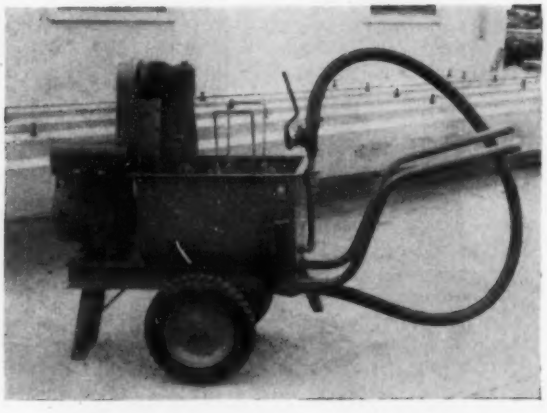
4



5



6



7

use MARLITH

THE QUALITY

WOOD WOOL BUILDING SLAB

Standard size: 6′ × 2′ (details of special sizes on request). Thickness: 1″, 1½″, 2″, 2½″ and 3″

For :

1. Insulating Structural Roof Decks.
2. Sarking over rafters.
3. Timber joist roof construction.
4. Undercover insulation and structural units to all types of metal roofing.
5. Underside timber joist ceiling construction.
6. Suspended acoustic ceilings with decorated finish.
7. Suspended ceilings with plaster finish
8. Insulation under asbestos-cement or corrugated iron roofing.
9. Insulation applied over concrete roof and floor surfaces.
10. Wall linings applied direct to brickwork.
11. Wall linings applied on timber battens.
12. Permanent shuttering to concrete roofs and floors.
13. Permanent shuttering to hollow-pot roofs and floors.
14. Permanent shuttering to concrete walls.
15. Insulated self-supporting solid partitions.
16. Insulated timber stud partitions.
17. Tank insulation.

MARLITH OFFERS ALL THESE ADVANTAGES AT LOW COST

LIGHT IN WEIGHT · HIGH IN STRENGTH · SUPERIOR THERMAL INSULATION · GOOD SOUND ABSORPTION
EASY TO APPLY · FIRE AND MOISTURE RESISTANT

Full details and specifications on particular uses of Marlith will be sent on request.

The Marley Tile Company Limited, London Road, Sevenoaks, Kent. Sevenoaks 55255

Scotland: *Bishopbriggs* 1093 Wales: *Pencoed* 376 Northern Ireland: *Belfast* 24447 Eire: *Lucan* 71

MARLEY

NON-SLIP GRAINS BY

CARBORUNDUM

FOR LONGEST WEAR AND SAFETY

For utmost reliability, architects and civil engineers continue to specify "silicon carbide grains by CARBORUNDUM." Indoors and out, silicon carbide is still the hardest and longest wearing non-slip grain for the treatment of floors, passageways, stairs, and other surfaces. This grain not only ensures the safest surface—it also provides the *most economical* safety surface.

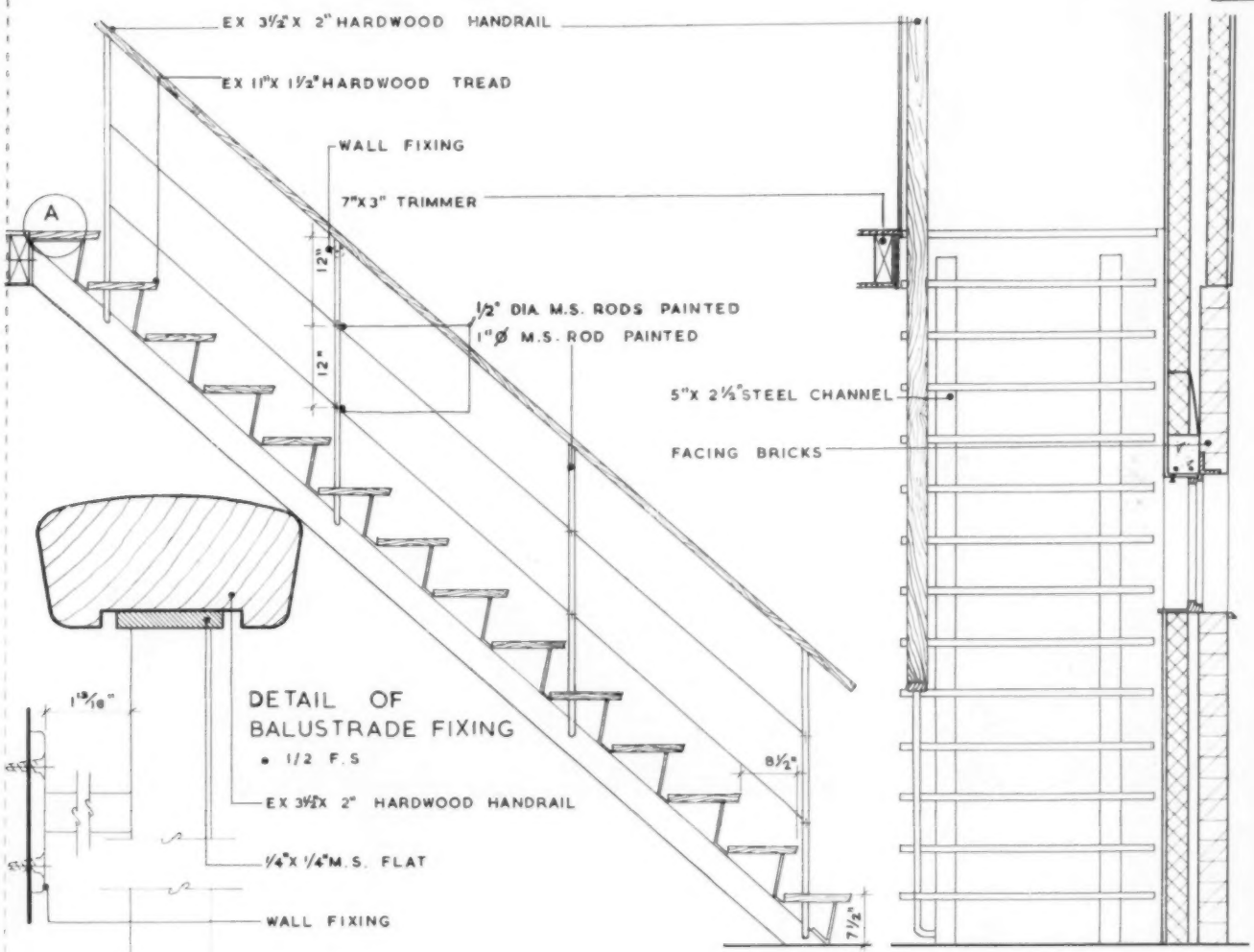
The photograph shows silicon carbide grains being trowelled in, after they had been sprinkled over a freshly laid section of concrete. The CARBORUNDUM Company Limited supplied 7 tons of silicon carbide grains for the preparation of all floor and stair surfaces in the large modern factory where this picture was taken.

HARDEST WEARING
LONGEST WEARING
SAFEST, MOST ECONOMICAL
NON-SLIP GRAINS BY
CARBORUNDUM

Abrasive products by CARBORUNDUM

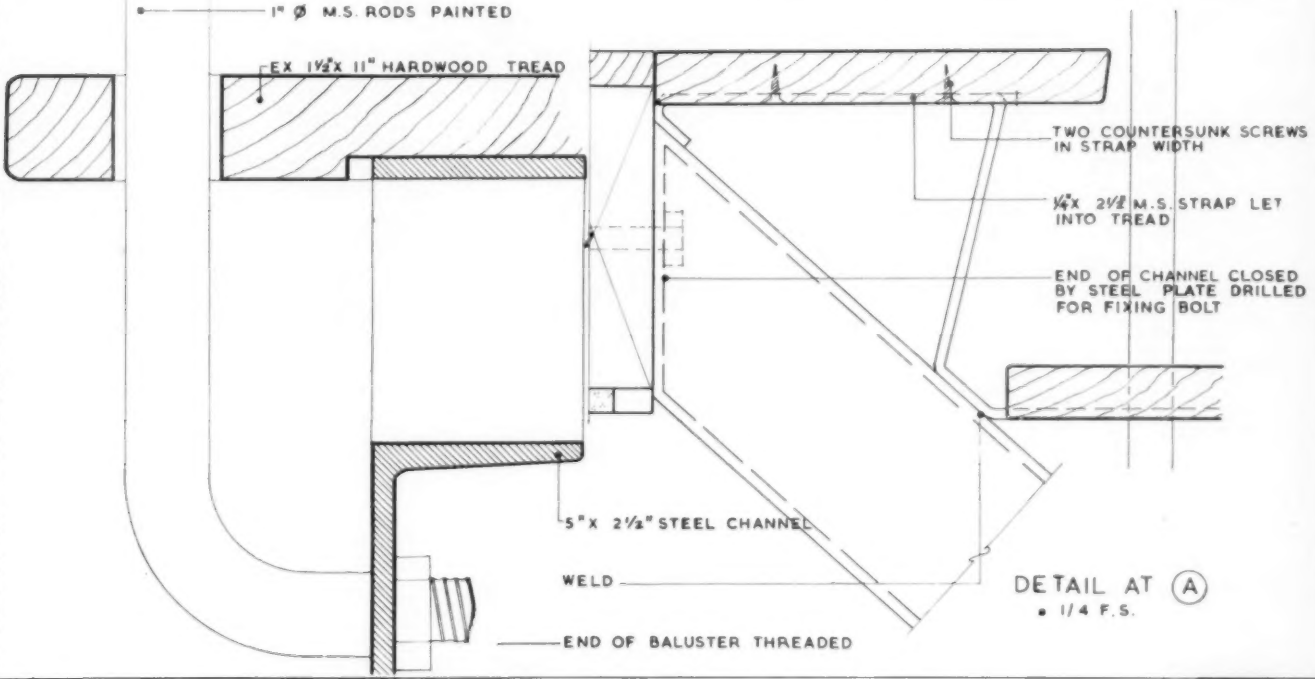
THE CARBORUNDUM COMPANY LIMITED, TRAFFORD PARK, MANCHESTER 17 PHONE: TRAFFORD PARK 2381

ELEVATIONS OF STAIRCASE • 1/2" TO 1' 0"



DETAIL OF BALUSTRADE FIXING

• 1/2 F.S


EX 1½" X 11" HARDWOOD TREAD
TWO COUNTERSUNK SCREWS IN STRAP WIDTH
¼" X 2½" M.S. STRAP LET INTO TREAD
END OF CHANNEL CLOSED BY STEEL PLATE DRILLED FOR FIXING BOLT
5" X 2½" STEEL CHANNEL
WELD
END OF BALUSTER THREADED

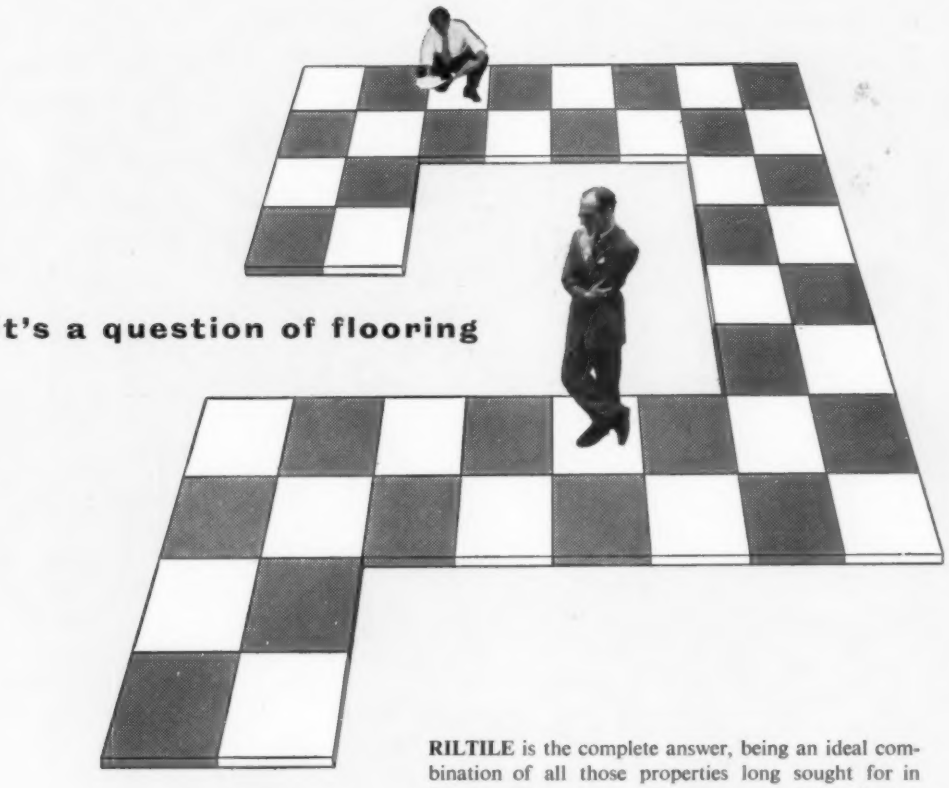
DETAIL AT (A)

• 1/4 F.S.

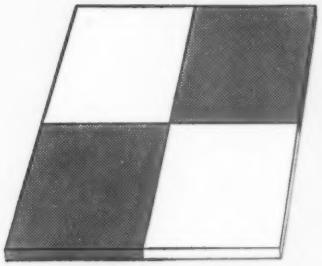
STAIRCASE. HOUSE. WALTON ON THAMES • ARTHUR STEPHENSON

K★

STAIRCASE. HOUSE, WALTON-ON-THAMES
ARCHITECT: ARTHUR STEPHENSON



when it's a question of flooring



RILTILE is the complete answer, being an ideal combination of all those properties long sought for in flooring. The outcome of intense research based upon long experience, this new thermoplastic hard tile is recommended with every confidence for use in hospitals, kitchens, bathrooms, offices, shops, bars, restaurants.

RILTILE is made in tiles only, measuring $9'' \times 9'' \times \frac{1}{8}''$, in a wide range of colours and mottled effects and at a cost to compare favourably with good quality inlaid linoleum. Damp proof, heat insulating, with excellent resilience, **RILTILE** is also impervious to dilute acids, alkalis, and is resistant to hot and cold water. It should be noted that only 12 hours are required after laying, before the floor is ready for normal traffic. While not completely fireproof, the asbestos used in the manufacture of **RILTILE** gives it excellent fire-resisting qualities.

RILTILE

Thermoplastic Flooring

Extremely hard wearing ☐ ***Easily and quickly laid***

Reduces foot fatigue ☐ ***No special cleaning required***

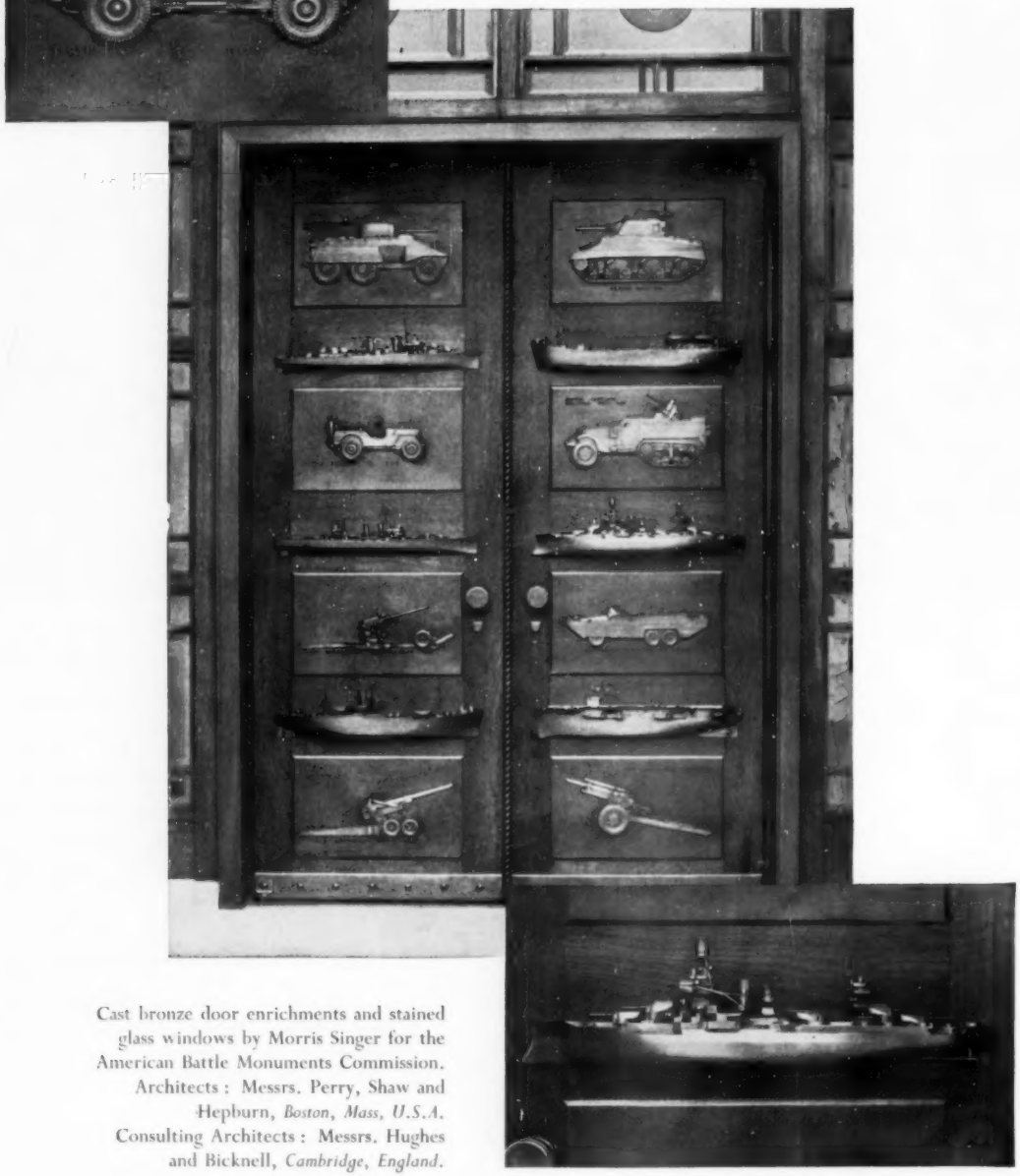
Write for samples and illustrated brochure—

BRITISH MOULDEX LTD · MOULDEX HOUSE · 27/29 Fitzroy Street, London, W.1 Tel: LANgham 4211/2

Memorial at the American Military Cemetry

MADINGLEY

CAMBRIDGE

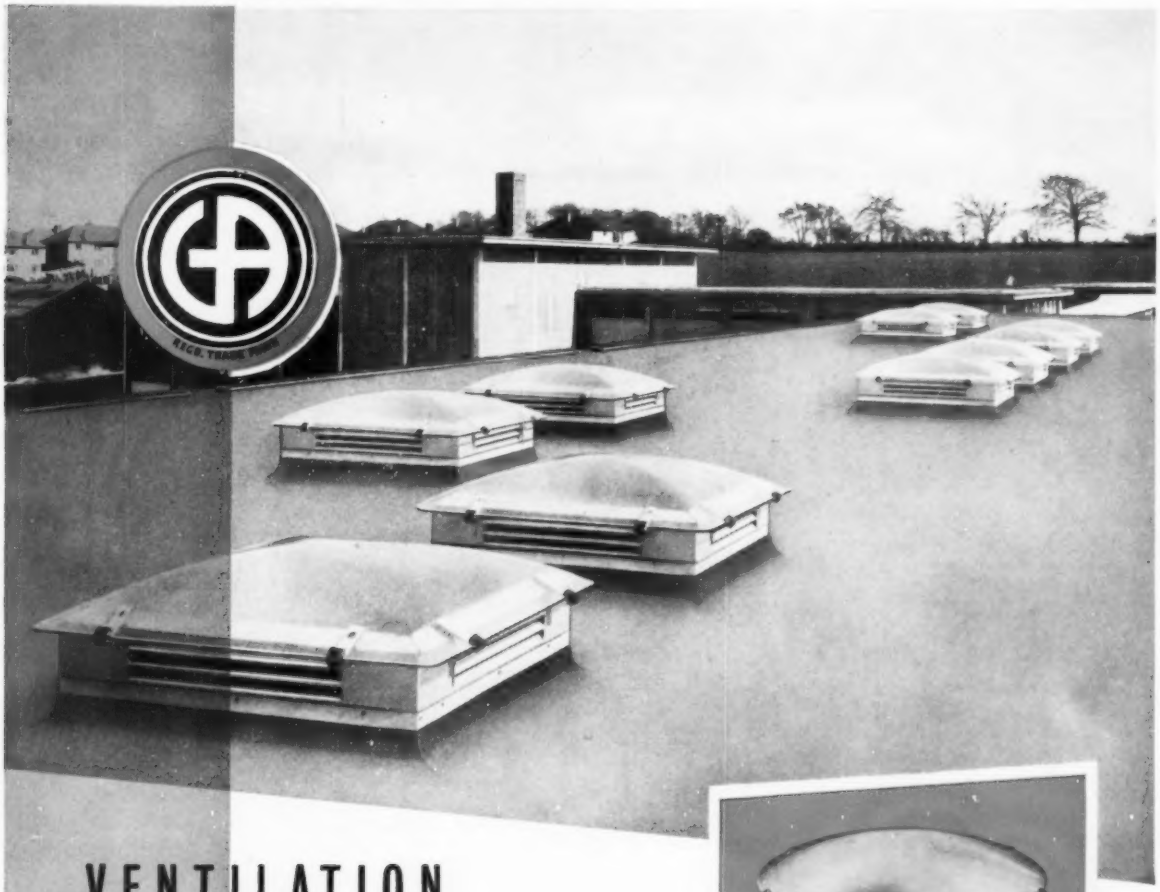


Cast bronze door enrichments and stained glass windows by Morris Singer for the American Battle Monuments Commission. Architects: Messrs. Perry, Shaw and Hepburn, *Boston, Mass, U.S.A.* Consulting Architects: Messrs. Hughes and Bicknell, *Cambridge, England.*

THE MORRIS SINGER COMPANY LTD

FERRY LANE WORKS, FOREST ROAD, LONDON E17

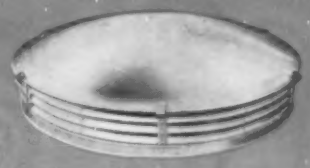
TELEPHONE: LARKSWOOD 1055



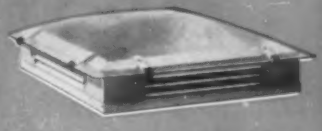
VENTILATION
-and Daylight!

WITH GREENWOOD-AIRVAC
DOME VENTILATORS

- Permanent or controlled ventilation
- For rectangular or circular domes in glass or perspex
- Increased lighting area over ordinary domelights
- All-steel construction, zinc sprayed
- Fully weathered external louvres
- Optional internal hit and miss shutters
- Unique toggle for hand or long arm control
- Designed for mounting on prepared concrete or timber curbs



CIRCULAR VENTILATOR
Circular models are supplied to fit standard circular domes from 18" diameter to 72" diameter



SQUARE VENTILATOR
Square and rectangular models are available to suit most standard domes from 30" x 30" to 48" x 72"

PATENTED

Write for fully illustrated literature

Greenwood-Airvac *ventilation*

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD
Designers and Manufacturers of Ventilating Equipment for Buildings, Vehicles and Ships
BEACON HOUSE, KINGSWAY, LONDON, W.C.2. CHAncery 8135/6/7. 'Airvac', London

Work can be a pleasure!

In the garden it's quiet. If the machine shop was as peaceful, nobody would have that "Monday-morning" feeling all the week. The thundering machinery, the whine as metal bites into metal, the overwhelming din, strains nerves to breaking pitch and encourages the 'odd day off'. Something must be done about it—call in Cullum. Cullum's acoustic engineers reduce noise and restore sounds to a tolerable level. Cullum *ought* to be called in straight away.

Sound control by **CULLUM**

THE ACOUSTIC CONSULTANTS AND CONTRACTORS

Concessionnaires for **ACOUSTI-CELOTEX**

PROGRESS WITH QUIETNESS **HORACE W. CULLUM & CO. LTD., FLOWERS MEWS, LONDON, N.19 Tel : ARC 2662 (4 lines)**

CONTRACT • NEWS •

*Notes below give basic data of contracts open under locality and authority which are in a bold type. References indicate: (a) type of work (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading (c) deposit (d) last date of application (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.*

OPEN

BUILDING

BEDFORDSHIRE EDUCATION COMMITTEE. (a) Erection of a new kitchen-dining hall, etc., at the Bedford College of Physical Education, Lansdowne Road, Bedford. (b) County Architect, Shire Hall, Bedford. (d) May 25.

* * *

BERKSHIRE C.C. (a) Erection of one pair of police houses at Wilding Road, Wallingford. (b) County Architect, Wilton House, Parkside Road, Reading. (c) 2gns. (e) June 6.

* * *

BRIGHTON B.C. (a) Carrying out alterations to convert "Devonia," London Road, into a home for 26 aged persons and to combine with "Herons Courts" home for aged blind persons. (b) Borough Surveyor, 26-30 Kings Road. (c) 2gns. (e) June 4.

* * *

CARDIFF C.C. (a) Conversion at the Old Maindy infants' school, Australia Road, into a department of decorating and painting for the College of Art. (b) City Surveyor, City Hall. (c) 2gns. (e) May 30.

* * *

CATERHAM AND WARLINGHAM U.C. (a) Erection of three pairs of houses at Clyde Avenue, Sanderstead. (b) Council's Engineer, Council Offices, Caterham. (e) June 7.

* * *

CHELTENHAM R.C. (a) Erection of eight houses and six bungalows at Apperley, Deerhurst. (b) Messrs. Rainger, Rogers and Smithson, Glenmore Lodge, Wellington Square. (c) 2gns. (d) May 19.

* * *

CROYDON B.C. (a) Erection of 19 dwellings on the Wilford Road/Forster Road redevelopment area. (b) Borough Engineer, Town Hall. (d) Immediately (e) June 5.

* * *

DARTFORD B.C. (a) Erection of 30 houses and 14 garages forming part of scheme 7 on the Temple Hill Neighbourhood Unit, Dartford. (b) Town Clerk, Council Offices. (c) 2gns. (e) June 4.

* * *

DOCKING R.C. (a) Erection of 8 bungalows and 4 houses and construction of sewers and a sewage disposal works at Dodds Hill, Dersingham, Norfolk. (b) Housing Officer, Council Offices, Docking, King's Lynn. (c) 2gns. (e) May 30.

YOU CAN DEPEND ON

Cementone

COLOURS
HARDENERS
WATERPROOFERS
DECORATIVE FINISHES

JOSEPH FREEMAN, SONS & CO., LTD.
LONDON, S.W.18. VANdyke 2432

COURSES for all R.I.B.A. EXAMS
Postal tuition in History, Testimonies, Design, Calculations, Materials, Construction, Structures, Hygiene, Specification, Professional Practice, etc. Also in general educational subjects.
ELLIS SCHOOL OF ARCHITECTURE
Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.
1030 OLD BROMPTON ROAD, LONDON, S.W.7
Phone: KEN. 4477. and at Worcester

CONTRACTORS TOOLS AND EQUIPMENT
THOS. W. WARD LTD
ALBION WORKS, SHEFFIELD

Specify
CERRUX
DECORATIVE PAINTS
CELLON LTD., KINGSTON-ON-THAMES

ENGLISH TIMBERS
for Building and Joinery Trades, Oak Planks for Cills, Half-Timbering, or scantling to size.
Architects' designs for staircases and exclusive furniture faithfully interpreted
GATES AND OAK DOORS A SPECIALITY
Seasoned quartered boards for Flooring, Panelling, etc. Machining done and joinery manufactured for the trade. Gates and Fencing.
Established 1884
WYCKHAM BLACKWELL Ltd.
Hampton-in-Arden, Solihull, Warwickshire
Telephone: HAMPTON-IN-ARDEN 3

how much does our reputation cost you?
It doesn't. Many think you pay for a name. That may be true of some, but certainly not of us.
The experience we have gained in doing the same job well for 100 years enables us to quote low rates.
for asphalt work it pays you
ENGERT & ROLFE LTD
LONDON E14 EAST 1461
& The Quay Exeter (Ex ... 1.0.

STRUCTURAL ENGINEERS
DUNLOP AND RANKEN LTD
Telephone LEEDS 27301 (20 Lines)
ALL CLASSES OF STEELWORK DESIGNED & ERECTED

LIGHTNING conducted by
Cullings A. Dept.,
17, CRAWFORD ST., W.1.
Any Building Anywhere

WINDOW BOXES

Fabricated in
Asbestos Cement Sheeting
List of details and sizes on application:
DALTON, BALLARD & Co. Ltd.
Fleet Place, Upper Park Rd., London, N.W.3
Tel.: Primrose 5854

EIRE—CO. KILKENNY EDUCATION COMMITTEE. (a) Erection of a vocational school, together with sundry site works, at Ballyhale and Thomastown respectively. (b) Colm O'Coclain, 40 Parliament Street. (c) 5gns. each school. (e) June 5.

* * *

EIRE—KILDARE C.C. (a) Erection of 34 houses, together with site and development works at Kildare. (b) County Secretary, District Hospital, Naas. (c) 5gns. (e) June 8.

* * *

ELLESMERE PORT B.C. (a) Contract No. 181. Erection of 14 bungalows in 2 blocks, 1 small public convenience, the demolition of slaughterhouse and outbuildings and ancillary works, at Edward Street. (b) Council's Engineer, Queen Street. (c) 3gns. (e) May 28.

* * *

GRAVESEND B.C. (a) Erection of a branch library and one block of six flats at Sun Lane. (b) Borough Engineer, 6 Woodville Terrace. (c) 2gns. (e) June 2.

* * *

GRIMSBY B.C. (a) Carrying out alterations and extensions to Welholme primary infants' school and (2) erection of a practical subjects block for the Welholme secondary girls' school. (b) Borough Engineer, Municipal Offices, Town Hall Square. (c) £2, each contract. (e) May 28.

* * *

GUILDFORD R.C. (a) Erection of four dwellings at Nightingale Crescent, West Horsley, 16 dwellings at Felday Cottages, Holmbury St. Mary, and 6 dwellings at Hornhatch, Chilworth. (b) Council's Engineer, Millmead House. (c) 2gns. (e) June 4.

* * *

KENDAL B.C. (a) Erection of open and coverage lairage and fodder store at the Public Abattoir, Kendal. (b) Borough Engineer, Municipal Offices, Lowther Street. (c) 1gn. (e) June 19.

* * *

LEICESTER C.C. (a) Carrying out alterations and additions at Congerstone School. (b) County Architect, 123 London Road. (c) 2gns. (e) May 25.

* * *

LONDON—EALING B.C. (a) Erection of three blocks of 27 flats, at Compton Crescent, on the Lime Trees estate, Northolt. (b) Borough Surveyor, Town Hall, Ealing, W.5. (c) £2. (e) June 22.

* * *

NEWMARKET U.C. (a) Erection of three blocks of five flats in Chapel Street and St. Wendred's Way, Exning. (b) Council's Architect, Council Offices, Severals House. (c) 2gns. (e) June 11.

* * *

NEW SARUM C.C. (a) Erection of 36 houses on the Bishopdown estate, Salisbury. (b) City Engineer, The Council House, Bourne Hill, Salisbury. (c) £2. (e) June 1.

* * *

N. IRELAND—BELFAST C.C. (a) Erection of kitchen, servery, boiler house and dining rooms, together with site works, at Cameronian Drive, Orangefield. (b) Education Architect, 40 Academy Street. (c) £5. (e) June 7.

* * *

N. IRELAND—BELFAST C.C. (a) Erection and completion of two blocks each containing four flats and one block of eight flats, together with common room and caretaker's flat at the Clara Park site. (b) Housing Architect, 94 Chichester Street. (c) £5. (e) June 5.

* * *

N. IRELAND — ELECTRICITY BOARD. (a) Carrying out proposed alterations and additions to premises at Castlewellan Road, Banbridge, Co. Down. (b) Messrs. W. H. Stephens and Sons, 13 Donegall Square North, Belfast. (c) 5gns. (e) June 11.

* * *

N. IRELAND — ENNISKILLEN. (a) Erection of a telephone repeater station at Lower Cross Street. (b) Ministry of Finance (Room 103), Law Courts Building, May Street, Belfast. (c) £2. (e) May 29.

* * *

NORTH RIDING EDUCATION COMMITTEE. (a) Carrying out alterations and extensions at East Ayton primary school, nr. Scarborough. (b) F. Barraclough, County Hall, Northallerton. (e) June 1.

* * *

NORTHWICH U.C. (a) Contract No. 281. Erection of a 6 bay block of garages on the Manor Park estate, including provision of concrete base, roof water drainage, painting of woodwork, and construction of additional area of forecourt. (b) Council's Engineer, The Council House. (e) June 4.

* * *

PORTSMOUTH C.C. (a) Erection of a home for 35 aged persons at Stone Street, Southsea. (b) City Architect, 1 Western Parade, Portsmouth. (c) £1. (d) May 25.

MULLEN
AND
LUMSDEN
LIMITED.
Contractors and
Joinery Specialists
41 EAGLE STREET, HOLBORN,
LONDON, W.C.1.
Telephone: CHAncery 7422/2/3/4.
Branches:
5 Coptic St., W.C.1. Tel.: Museum 3705.
Southampton. Tel. No. 73176.

London's Finest new & secondhand Value
ARCHITECTS' PLAN CHESTS
Steel & Wood Office Furniture
Filing Cabinets
Safes · Chairs · etc.
M. MARGOLIS
378-380 EUSTON ROAD LONDON N.W.1. Phone EUS 1733

THE
ECONOMIC
HOUSE DRAINAGE RPG. CO. LTD.
147, MARYLEBONE ROAD, N.W.1.
SPECIALISTS IN PATENT DRAINAGE AND FLUE RESTORATION WORKS (UNDER RESTALLS PATENTS), DRAINAGE RECONSTRUCTION AND SANITARY PLUMBING WORKS IN TOWN AND COUNTRY (FLUE EXHIBIT AT BUILDING CENTRE).
ESTABLISHED OVER HALF A CENTURY
PHONE: PAD 2273 (Two lines)

AFRICAN
MAHOGANY
BLOCK
EX STOCK
WILLIAM THORNTON & SONS LTD.
38 Wellington Road, Liverpool 8
Tel.: Lark Lane 1921/4

HATHERNWARE
The toughest FAIENCE made
HATHERNWARE LIMITED, LOUGHBOROUGH, LEICESTERSHIRE

RICKMANSWORTH U.C. (a) Conversion of The Grove, Dugdale, Croxley Green, to form four self-contained flats. (b) Council's Engineer, Council Offices. (c) 1gn. (e) May 25.

* * *

RUGBY B.C. (a) Erection of 24 three-storey flats, 14 garages and stores, together with site works, at Abbotts Farm estate, Hillmorton. (b) Borough Surveyor, Burford House. (c) 2gns. (e) June 11.

* * *

SCOTLAND—BARRHEAD. (a) Erection of 96 two-storey cottages at Weir Avenue site. (b) Scottish Special Housing Association Ltd., 15-21 Palmerston Place, Edinburgh, 12.

* * *

SCOTLAND—FIFE. (a) Erection of 96 cottage type and 168 three-storey flatted house at Auchterderran, Cardenden. All or separate trades. (b) Scottish Special Housing Association Ltd., 15-21 Palmerston Place, Edinburgh, 12.

* * *

SCOTLAND—MIDLOTHIAN C.C. (a) Erection of 13 houses at Danderhall. (b) County Architect, 32 Palmerston Place, Edinburgh, 12.

* * *

STONE R.C. (a) Erection of 8 houses and 2 bungalows at Norton Bridge. (b) Messrs. Hollins, Jones and Oldacre, Lloyds Bank Chambers, Newcastle. (c) £2 by cheque.

* * *

STRETFORD B.C. (a) Alterations and conversion in the kitchen of the Technical College, Talbot Road, and the High School for girls, Granby Road. (b) Borough Surveyor, Town Hall. (c) 2gns. (e) May 28.

* * *

SWANSEA B.C. (a) Erection of a new hall at Dunvant secondary school, Swansea. (b) Borough Architect, The Guildhall. (c) £5. (d) May 28.

* * *

WEDNESBURY CORPORATION. (a) Erection of six two-bedroom houses, three shops and flats, at Golf Links estate, and three shops and flats at Millfields estate. (b) Borough Engineer, Town Hall. (c) 3gns. by cheque, payable to Corporation. (e) June 8.

* * *

WEST RIDING STANDING JOINT COMMITTEE. (a) Erection of 1 pair of police houses at Oakdale, Elm House estate, Worsbrough, near Barnsley, and 1 pair police houses at Park View, Elm House estate. (b) County Architect, "Bishopgarth", Westfield Road, Wakefield. (c) 2gns. (e) May 25.

GIMSON LIFTS

Service is available throughout the country

GIMSON & CO. (LEICESTER) LTD.
VULCAN ROAD, LEICESTER
Telephone: LEICESTER 60272
Telegrams: GIMSON LEICESTER

ESTABLISHED OVER 100 YEARS
GRAY
CHA 8701*
SAL. 2750
J. W. GRAY & SON LTD
1 PRINCETON STREET
BEDFORD ROW, WC1
LONDON &
13 CASTLE STREET
SALISBURY
LIGHTNING CONDUCTORS

Specialists in the fabrication of
STAINLESS STEEL SINKS
Designed to meet requirements
ASSOCIATED METAL WORKS
(GLASGOW) LTD.
30 ST. ANDREW'S SQUARE, GLASGOW, C.1.
'Phone: BELL 2004/5
'Grams: "STAINLESS, GLASGOW"
LONDON: 7 GROSVENOR GARDENS, S.W.1.
'Phone: VICTORIA 1977/8
And at:—
LIVERPOOL · BIRMINGHAM · NEWCASTLE
MANCHESTER · BELFAST · DUBLIN

PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

NOTTINGHAMSHIRE. (1) Workshops and offices, for N.C.B. (2) Bestwood Colliery. (3) William Moss and Sons Ltd., Queen's Road, Loughborough. (4) £550,000.

* * *

SURREY. (1) Erection of a temple for Church of Jesus Christ and Latter Day Saints. (2) Near Lingfield. (3) Kirk and Kirk Ltd., Upper Richmond Road, London, S.W.15. (4) £510,000.

* * *

LONDON COUNTY COUNCIL. (1) Erection of Garratt Green School. (2) Wandsworth. (3) Tersons Ltd., Dollis Hill, Finchley, N.3. (4) £652,749.

* * *

BIRKENHEAD B.C. (1) 240 flats and 26 dwellings. (2) Eldon Place and Bratton Road. (3) William Thornton and Sons Ltd., 38 Wellington Road, Liverpool. (4) £679,000 and £62,033.

* * *

CRAWLEY DEVELOPMENT CORPORATION. (1) 20 shops, 20 maisonettes. (2) Tilgate. (3) Y. J. Lovell and Son Ltd., Horsham, Sussex. (1) 10 shops and maisonettes. (2) Town Centre. (3) Same contractors. (4) £182,695.

* * *

ETON. (1) New boys' house. (2) Eton College. (3) H. D. Bowyer, Mackenzie Street, Slough. (4) £180,000.

* * *

LINCOLNSHIRE. (1) Secondary school for Holland C.C. (2) Holbech. (3) W. Wright and Sons (Lincoln) Ltd., Boston, Lincs. (1) Secondary school. (2) Long Eaton. (3) Daglass Ltd., Brigstock Road, Wisbech.

* * *

HALIFAX B.C. (1) Technical School. (2) Illingsworth. (3) Pickles Bros. Ltd., Mile Thorn, Halifax. (4) £209,000.

* * *

BOURNEMOUTH. (1) Block of shops and offices. (2) Christchurch Road. (3) Higgs and Hill Ltd., South Lambeth Road, London, S.W.8. (4) £200,000.

Structural Economy for the Architect and Builder

By GEORGE FAIRWEATHER, F.R.I.B.A.

This book is a critical analysis of traditional forms of construction first identifying the main characteristics of buildings as determined by the materials and methods used in their construction. It then examines these characteristics in relation to their functions and the standards of performance required, and suggests improvements where these forms of construction fall short of present-day requirements.

For the purposes of this analysis, two basically different systems have been selected to represent the main features of traditional construction—masonry and light-frame construction. These are examined in several of their more common applications, and the limitations inherent in their use are identified. The present building laws are liable to restrict the full development of the new constructional methods, and the last chapter of the book summarises the regulations now in force, and suggests improvements.

Published for THE ARCHITECT & BUILDING NEWS **21s. net. By post 22s. 5d.**

Obtainable from all good booksellers or direct from:
THE PUBLISHING DEPT., DORSET HOUSE, STAMFORD ST., LONDON, S.E.1.

it's **FIXED** with **Uni-Bond**

BOND-ANYTHING-TO-ANYTHING

Here's the most astounding bonding agent ever contrived. No more hacking for keying. Uni-Bond will bond cement/sand to old surfaces, of tile, rendering, compo, asphalt, also to Timber, Asbestos, Zinc, Lead, Cloth to Cloth, Glass. In fact it will Bond Anything To Anything to each and one another. For inside and external use.
We guarantee the material. It is quite impossible for any Works Engineer, Architect, Builder, Surveyor, not to have a use of some kind for Uni-Bond. Uni-Bond is ready for use—no mixing. Will store for up to two years, and is used cold.

There is nothing the same as Uni-Bond. Beware of substitutes. Uni-Bond is guaranteed.

SEND FOR THIS BROCHURE TO-DAY!

LIQUITILE SUPPLY CO. (Dept. IEN) 48 HIGH STREET · CAMBERLEY · S· SURREY Telephone Camberley 2262. Ext 2

a new view

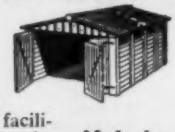
of the space problem

At the touch of a finger, one room is transformed into two—simply by opening out the Modernfold wall. In the same way, Modernfold doors save valuable floor space—*because they do not swing, they fold.* Precision engineered, available in a range of attractive colours, Modernfold walls and doors are ideal wherever space is at a premium.
Write now for full details.

HOME FITTINGS (Gt. Britain) LTD.
Tumble, Llanelly, Carmarthenshire. *Telephone: Tumble 313/4*

make more room with **modern fold** walls and doors

The BANBURY Battery Way



We erect if required

The finest and simplest Battery lock-up garage construction with a specification second to none. Miles cheaper than brick. Your own unskilled labour can erect with the greatest of ease. Will last 100 years and more. Perfect aluminium Glide-Over doors. Not a penny for maintenance. Free delivery most areas.

Batteries for 2 cars or 102. Credit facilities available. As an investment the Banbury Battery Way is unequalled. A Battery can pay for itself OUT OF RENTALS in 2½ years. Thereafter the income is YOURS FOR LIFE. **Special trade terms. Write now for full details.**

Made by the makers of the famous Banbury Garages

BUY A BANBURY—
YOU'LL BE AS PROUD OF IT AS WE ARE

Portable Concrete Buildings Ltd., Ironstone House, Adderbury East, Nr. Banbury, Oxon. Tel.: Adderbury 331/2/3
DHB/2217

Facts about plastaweld

Another MANGER product

PERMANENT BONDING FLUID FOR GYPSUM PLASTERS

What it is PLASTAWELD is a non-toxic fluid used straight from the can. Does *NOT* require stippling or blinding with sand.

What it does Permanently bonds gypsum plasters to all sound surfaces, however smooth, WITHOUT PRELIMINARY HACKING.

How much it costs 46/9 per gallon for 70 to 120 sq. yards coverage, according to type of surface.

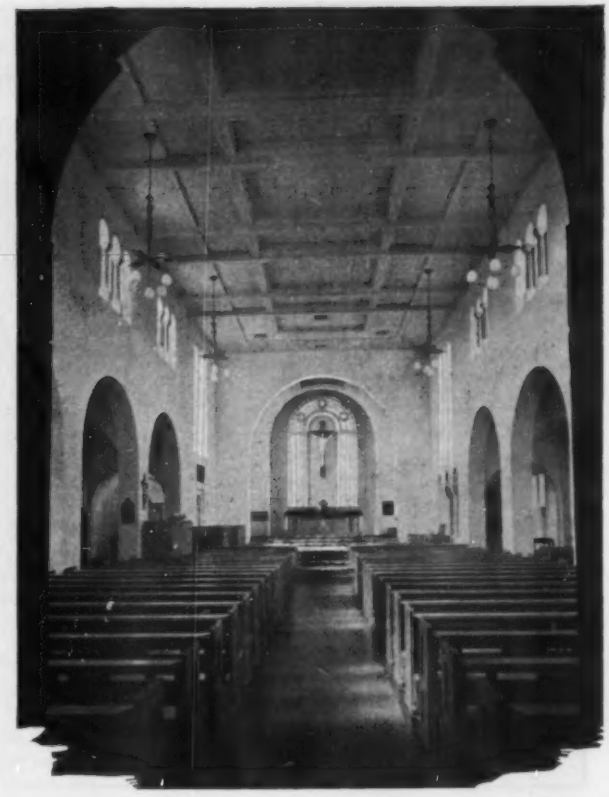
Advantages *NO HACKING, NOISE, DUST OR DIRT.* Very simple to apply with brush or spraygun.

How we can help Our technical department is at your service to assist in particular problems.

Technical Representatives are ready to call on you or visit your sites.

Telephone or write to: Dept. AB

J. MANGER & SON LTD.
57d KINGSLAND HIGH STREET
LONDON E.8
Phone · CLissold 5307/10



Inconspicuous Heating

Send for our new booklet, which gives details of the operation of the system and many illustrated examples of how the system can be adapted.

The Grundy Warm Air Heating System is ideal for churches and similar buildings where there should be no disfiguring apparatus. This is achieved by our system which is capable of wide variation to meet every need.

No water pipes — no damage in frost

GRUNDY

The "WARM AIR SYSTEM"

JOHN GRUNDY LTD., PARR STREET, TYLDESLEY, LANCS.

London Office — 393a City Road, London, E.C.1.

dmGY6

The "CRANLEY" Concrete Building

for GARAGE and WORKSHOP CONSTRUCTION. CLEAR SPAN ROOF 20 ft. - 45 ft.

SPECIALLY DESIGNED AND TESTED FOR INDUSTRIAL USE, SIMPLICITY WITH SAFETY, COMPLIES WITH BRITISH STANDARD CODE OF PRACTICE.

Erection is carried out by our Specialist Erectors.

NO MAINTENANCE: All units being Reinforced Precast Concrete, Asbestos Cement Roof Sheeting, Concrete Windows of various sizes to suit all requirements.

Save money by using the CRANLEY Height—16 ft. to eaves maximum. Bay Lengths—10 ft. to 15 ft.

Full particulars from:

F. & D. M. HEWITT LTD. KNOWLE LANE, CRANLEIGH, SURREY Tel.: Cranleigh 814/5

And LYNCHFORD ROAD FARNBOROUGH, HANTS.

Smith & Allcock Ltd., 477 Chester Road, Old Trafford, Manchester, 16. Tel.: Trafford Park 0460.

PARK YOUR CYCLES

THE **ODONI** WAY

(Regd. Trade Mark)

Types to suit all possible requirements. Single or Double sided, for indoor or outdoor use. Horizontal or Semi-Vertical

Write for full details to Sole Manufacturers and Patentees —

ALFRED A. ODONI & Co., Ltd.

Salisbury House, London Wall

LONDON, E.C.2. Tele { phone Monarch 8638/9 grams Odoni Ave. London

(Works: London N.W.10.)

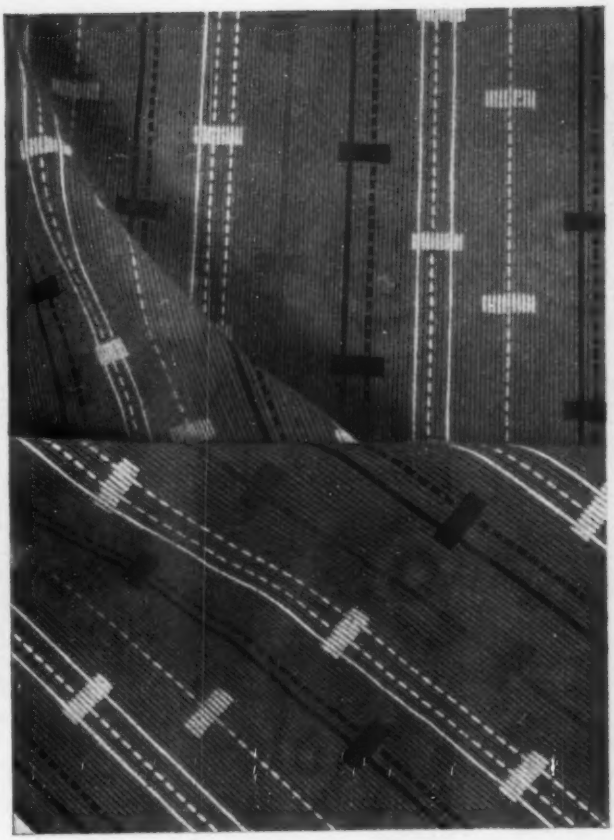
NEW AND SECOND-HAND STEEL AND WOOD OFFICE FURNITURE AND EQUIPMENT OF ALL SIZES AND DESCRIPTIONS. PLAN CHESTS, FILING CABINETS, CUPBOARDS, FIRE RESISTING SAFES, PEDESTAL DESKS, TYPIST DESKS AND CHAIRS ALWAYS IN STOCK.

CONTEMPORARY DESIGN DESKS IN NATURAL OAK FINISH OR BLONDE MAHOGANY FINISH AT VERY REASONABLE PRICES. REMEMBER WE HAVE THE LARGEST STOCK IN LONDON TO CHOOSE FROM!

S. MARGOLIS & SONS TEMPLE BAR

63/65 NEW OXFORD ST., LONDON, W.C.1 7364/9513

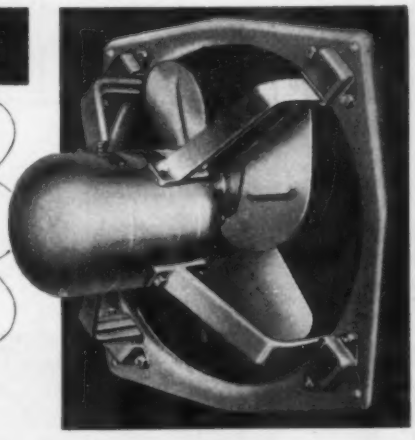
REPLIN,
a hard wearing
and easy-to-clean
upholstery material,
is woven to order in
contemporary and traditional
designs and stripes.
Plain material is now
available from stock in over
thirty colours and can
be woven in "House &
Garden" and British
Colour Council
shades



Replin

2 SOUTH AUDLEY STREET, W.1.
TELEPHONE: GROSVENOR 6692

Constant fresh Air



efficient air movement • low power consumption • quiet operation • sturdily built • easy installation

G.E.C. **PROPELLER FANS**

THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2

Parsons

DECORATIVE PARSOLAC ENAMEL

—the perfect finish for all exterior and interior work

Is highly resistant to sun, weather and chemical influences

Has brilliant gloss and excellent opacity

Dries to a smooth, hard, dirt-resisting finish

Synthetic base resin ensures quick drying with a high degree of elasticity

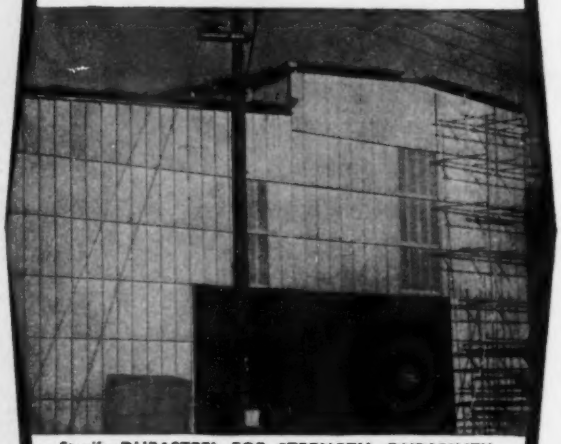
Supplied in a wide range of colours and in black and white

Full details on request to:

THOS. PARSONS & SONS LTD.
Established 1802
70, Grosvenor Street, London, W.1. MAYfair 7951

Branches: Beaconsfield · Birmingham · Brighton · Cardiff · Cork Dublin · Edinburgh · Glasgow · Hanley · Leeds · Manchester Newcastle-on-Tyne · Nottingham · Plymouth and Southampton.

DURASTEEL
Composite Steel-&-Asbestos
CORRUGATED ROOFING

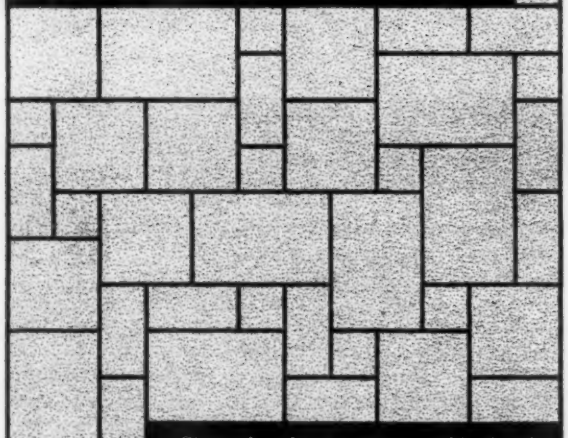


Specify DURASTEEL FOR STRENGTH, DURABILITY, FIRE RESISTANCE

Above are Corrugated Durasteel Sheets being fitted as vertical cover and Roofing to the Basrah Petroleum Company's Power Station at Zubair Oilfield.

DURASTEEL LTD.,
OLDFIELD LANE, GREENFORD, MIDDLESEX.
WAXLOW 1051

"NOELITE" PAVING



Strength and permanency combined with an attractive and artistic appearance are the qualities which make "NOELITE" Paving ideal for the surrounds to Schools, Hospitals, Welfare Centres, etc.

It is made in many sizes and five colours with a perfect, non-slip surface. "NOELITE" Paving is proof against frost and other extremes of weather, making it suitable for all outdoor paving work.

"NOELITE" LTD.
(Contracts Dept.)
Borough Green, Kent. Tel: Borough Green 137

Here's a Good Tip

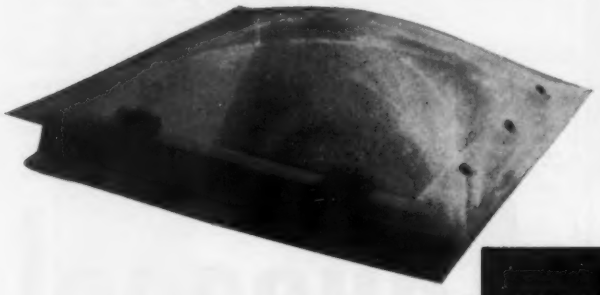
Batley, smooth-sliding, trouble-free Up and Over Doors can be quickly and easily fitted to any width or height of opening. With finger-tip action, the door slides smoothly on ball bearing wheels, leaving an unobstructed opening with clear height of 6' 1". There are no springs to lose tension; nothing to warp or sag. Will last a lifetime.

- Panelled with Aluminium Alloy, double crossed braced for strength and rigidity, or in exterior grade Mahogany Plywood, with grained finish to take varnish or paint.
- Size - 7' 6" wide X 6' 3" high
- Price £18 delivered Free in England & Wales.

BATLEY UP & OVER DOOR

Full details and literature from
ERNEST BATLEY LTD., 986, COLLEDGE RD., HOLBROOKS, COVENTRY.

"Perspex" DOME ROOFLIGHTS



Full information and prices of circular, square and rectangular rooflights of our manufacture, in clear and diffusing opal material obtainable from —

WILLIAAM.J. COX LTD.

"PERSPEX" SHAPERS & FABRICATORS

A.I.D. APPROVED NO. 3676/42

559/561, HOLLOWAY ROAD · LONDON, N.19

Telephone: ARChway 1174/1175

KINGLEY

MANIPULATIVE JOINTS

THAT WON'T PULL OFF

British Patent No. 596673

FOR HIGH SPEED ASSEMBLY

LOOK at the cross section—metal to metal joints with no loose rings, cones or ferrules, self-seating by means of swage or circular ridge—DOUBLE GRIP CANNOT SLIP !

★ **Be safe, use Kingley :—**

ABOVE GROUND with B.S.S. 659 Copper Tube.

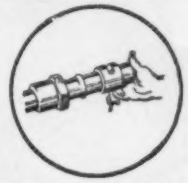
and

BELOW GROUND with B.S.S. 1386 Copper Tube

Less expensive than alternative methods of jointing—easy to make in three simple operations.

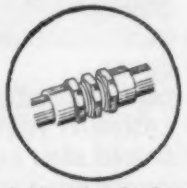
★ PROMPT DELIVERY.

★ Universally approved by Government Departments, Water Works and Local Authorities, etc.



● *Swage or circular ridge made with fool-proof tool.*

● *The fitting seats itself against the swages producing 100% efficient joint.*



● *Nuts tightened and joint completed in a few seconds.*

★ *For full particulars and illustrated catalogue write to :—*

KINGS LANGLEY ENGINEERING CO. LTD.

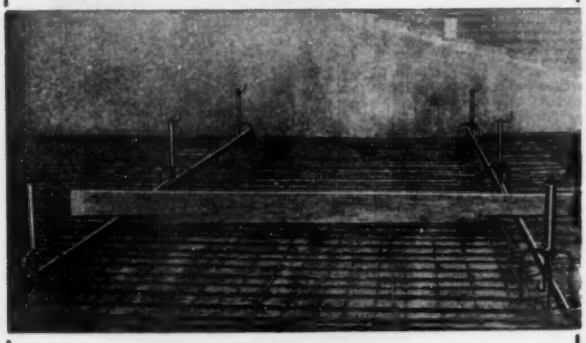
KINGS LANGLEY · HERTS

TELEPHONE : KINGS LANGLEY 2215-6 TELEGRAMS : CHAMPION - KINGS LANGLEY

N

The "PLANO" ... Brit. Pat.

A NEW LABOUR SAVING DEVICE



Save time, work quicker and more accurately by using The "PLANO"
THE IDEAL MEDIUM FOR
TOP LEVELLING CONCRETE SURFACES

For full details apply to:—

ANDERMAN & CO., LTD.

31, TOOLEY STREET, LONDON S.E.1. *Telephone: HOP. 1169*

Waterproof that leaky roof with Aquaseal

Simply apply AQUASEAL straight from the container with a brush or broom. It adheres to any clean surface and forms a firm, jointless, durable coating which remains thoroughly waterproof.

AQUASEAL cannot creep or flow under the hottest sun or become brittle in cold weather; and is unaffected by acids and fumes in the atmosphere.

A gallon tin (Black 9/3, Brick Red 11/9) covers 4-5 sq. yds. with two coats. Also in 5 gallon and 10 gallon drums. To seal holes or cracks, use AQUASEAL Plastic. Quart tin, 3/3. Also in larger sizes.

From Builders' Merchants, or write to:
BERRY WIGGINS & CO. LTD., BREAMS BUILDINGS, LONDON, E.C.4

DOORS NEED NOT *S-L-A-M*

—specify

"Victor" DOOR SPRINGS

An essential fitting with self-contained check for Public Buildings, Housing Schemes, Office Blocks, etc. In shallow and watertight floor patterns. Overhead types to suit every purpose.

ALSO

- **WINDOW GEARING AND FANLIGHT OPENERS**
- **'X-IT' PANIC BOLTS**
- **LOCKS**
- **DOOR FURNITURE**
- **CASEMENT FITTINGS**
- **SPRING SASH BALANCES**

"VICTOR" fittings are specified by all leading Architects.

ROBERT ADAMS (VICTOR) LTD
139 STAINES ROAD, HOUNSLOW, MIDDX
Telephone: Hounslow 5714

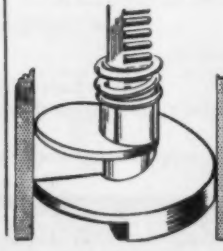
Telephone: CAMBERLEY 2330-3

NORMID Limited

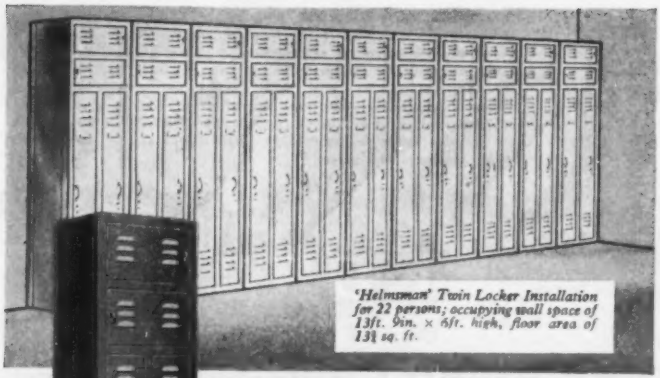
YORKTOWN WORKS
QUEEN MARY AVE.,
CAMBERLEY,
SURREY.

Your earth boring problem instantly solved by the largest hire fleet of this specialised equipment in the country. Depths to 20 feet, bore to 42 inch diameter holes. Nation-wide coverage.

SHORT BORED PILE FOUNDATIONS
DEEP PILE FOUNDATIONS
TOWER FOOTINGS
TRANSMISSION POLE ERECTION



Daily, weekly or monthly terms as well as keen quotations for special contracts gladly submitted.



Save MONEY and 37½% WALL SPACE ON CLOTHES STORAGE!

Each Twin Locker Unit provides separate accommodation for the clothing and personal belongings of two persons. Fitted with modern streamlined SLIDEX Handle with 3-Point Latching, lockable with padlock. Standard size: 72in. x 15in. x 12in. deep. Wide choice of colours and other sizes. **LIST PRICE £4.18.6** (in nests of 3) per person. (£9.17.0 per Twin Locker). (Traditional 6-lever Lock in lieu or in addition if required.) Other 'Helmsman' Products: Shelving: Open-type; solid sides; Cupboards; Bin Units; Cabinets; All-steel Desks. Full details gladly sent on request, or 'phone Mr. Quin at Larkswood 4411.

Helmsman- TWIN TYPE

STEEL CLOTHES LOCKER (Patent No. 699842)

W·B·BAWN

& COMPANY LIMITED

Discounts for quantities: special quotations for complete installations; prompt delivery; normal commercial credit terms to business undertakings.

BYRON WORKS, BLACKHORSE LANE, LONDON, E.17.

Telephone: LARKSWOOD 4411/4

HELMSMAN PRODUCTS

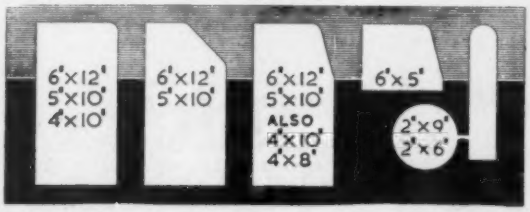
ROAD KERB

to B.S.S. 340, (1950).

Hydraulically Pressed or Vibrated; Granite or Gravel Aggregate. Tool dressed to order. Radius kerb Hydraulically Pressed and Vibrated.

Stocks, including Channel, Standard Radii and Quadrants are held at our Works at Willenhall, S. Staffs., Kidsgrove, N. Staffs., Iver, Bucks., Littlehampton, Sussex, Scunthorpe, Lincs., and Whitchurch, S. Wales.

Full particulars and prices upon request.



TARMAC LIMITED

VINCULUM DIVISION

ETTINGSHALL · WOLVERHAMPTON

Telephone: BILSTON 41101 (eleven lines)

LONDON OFFICE: 50, Park St., W.1. (GRO 1422)

Where MIGHTY MASSES LUMBER—

KORODUR Heavy Industrial Flooring is a unique, pure quartz composition. Once laid it is permanently unaffected by exceptionally heavy wear including the regular passage of tracked or other massive traffic, and will bear pressures of up to sixty tons with ease. KORODUR is impervious to fire, oils, petrol, water and a wide variety of chemicals and acids. Full test reports on KORODUR are available on application to the SURFEX FLOORING COMPANY LIMITED who are the sole agents for KORODUR. KORODUR can be machine laid by our own team of experts.

Write to the SURFEX FLOORING COMPANY LIMITED makers of the World's finest Floorings — including INDUSTRIAL VINYL SURFEX for heavy foot and truck traffic, and POLYFLEX domestic and office flooring.

KORODUR
HEAVY INDUSTRIAL FLOORING

SURFEX FLOORING CO. LTD. 48 HIGH ST · CAMBERLEY · S · SURREY · Tel: CAMBERLEY 2263

STRUCTURAL STEELWORK

FABRICATED & SUPPLIED BY

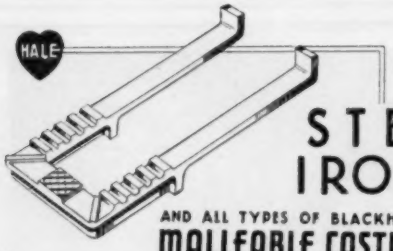
THE NORTHARC ORGANISATION
260, LANGHAM ROAD, LONDON, N.15
PHONE: BOWES PARK 3757 & 7548

ARCHITECTS AND BUILDERS ARE INVITED TO WRITE FOR OUR BROCHURE CONTAINING FULL SIZE ILLUSTRATIONS OF WIREWORK PATTERNS

WIREWORK

METAL LATTICE WOVEN WIRE

F. W. POTTER & SOAR LTD.
PHIPP STREET LONDON E.C.2
Bishopsgate 2177 (3 lines)



STEP IRONS

AND ALL TYPES OF BLACKHEART MALLEABLE CASTINGS
for the ENGINEER · SURVEYOR · CONTRACTOR.

SEND FOR PRICES

HALE & HALE (TIPTON) LIMITED DUDLEY PORT Staffs

TEMPLEX
STANDARD
FACTORY AND STORE
BUILDINGS

TEMPLEX HOLDINGS LTD, 110 KINGS ROAD, LONDON, S.W.3
TELEPHONE: KENSINGTON 2620

FOR over fifty years Libraco Ltd. have been designing and manufacturing furniture and woodwork of all descriptions for

LIBRARIES
SCHOOLS & OFFICES

The illustration shows the STOKE NEWINGTON BRANCH LIBRARY (Pre-Fabricated), recently equipped by Libraco Ltd

Write for illustrated Booklet.

LIBRACO LIMITED

LOMBARD WALL, WOOLWICH RD., CHARLTON, LONDON, S.E.7.
Telephone : Greenwich 3308 & 3309.

An Important Improvement

in

HOT WATER TANKS

IN keeping with their progressive policy, and to meet the requirements of the Building Industry, Harveys have designed a new type of Manhole and Cover for "HARCO" HOT-WATER TANKS.

The main advantage of this development is that of preventing the thread of the bolts from coming into contact with water, thereby avoiding corrosion—and the consequent risk of shearing the bolt heads—and greatly facilitating removal of the cover for servicing.

This is achieved by securing the heads of the bolts inside the tank, so that the screwed portion projects outside.

No hemp, red lead or other jointing material is required when fixing the cover, other than the India Rubber Ring which is supplied with the tank. This ring, together with the grummets fitted under the bolt heads inside the tank, enables a perfect seal to be made in much less time.

The cover itself is slightly convex to give additional strength, and the turned-over edge of the manhole presents a smooth rounded surface which cannot injure the hands or arms when installing the tank.

Ask for List No. A 873.

'Harco' Patent Manhole & Cover

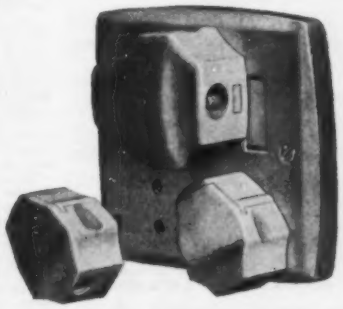
Please obtain your supplies through your usual Builders' Merchant or Ironmonger.

Harvey

Patent No. 664463

G. A. HARVEY & CO. (LONDON) LTD., Woolwich Road, London, S.E.7. (GREenwich 3232, 22 lines)

NEW DAY



Range of Matched Accessories with many new features

Make sure you have our New Brochure

NEWDAY ELECTRICAL ACCESSORIES LIMITED

136/8 MARY ST., BIRMINGHAM 12. Tel.: Calthorpe 2621

One of the Companies associated with Southern Areas Electric Corporation Ltd.

OFFICIAL ANNOUNCEMENTS

APPOINTMENTS • CONTRACTS • TENDERS

Rate 1/6 per line, minimum 3/- *Close for press 1st post Monday for following Thursday Issue*

APPOINTMENTS

ASSISTANT BUILDING MAINTENANCE SURVEYORS

required by

THE ATOMIC WEAPONS RESEARCH ESTABLISHMENT, ALDERMASTON, BERKSHIRE

to assist on Building Survey work in connection with the extension, conversion and maintenance of the buildings of the Establishment and its Housing Estates. The work involves liaison with scientific and engineering staff and covers a wide field with many novel aspects.

APPLICANTS should be Registered Architects or Chartered Surveyors (Building Section) or have exempting qualifications. Experience in the preparation of schemes, specifications, schedules of work and estimates for the execution of works by direct and contract labour is essential.

Salary: £728 (at age 25) - £1,130 p.a. Contributory Superannuation scheme. Married officers now living outside the Establishment's transport area will be eligible for housing on one of the Authority's Estates or alternatively assistance towards legal expenses incurred in house purchase may be available; until housed a lodging allowance may be payable.

Requests for application forms by POSTCARD to the Senior Recruitment Officer at the above address not later than 22nd May, 1956. Quote reference 1153/184. [2331

COUNTY BOROUGH OF ROCHDALE

ASSISTANT ARCHITECTS

APPLICATIONS are invited for the appointment of two Assistant Architects at a salary within the Special Grade £690 - £840 per annum, commencing salary depending upon qualifications and experience.

One appointment will be in the Housing Architects' Section and one in the General Architects' Section.

Alternative applications will be considered from persons who are undertaking their professional training but have not yet fully qualified, at a salary within Grades I to III.

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts, and to passing a medical examination.

Housing accommodation will be provided by the Council in appropriate circumstances.

A scheme for the payment of voluntary overtime is to be introduced.

Canvassing is prohibited and applicants must disclose whether they are related to any member or senior official of the Council.

Applications, stating age, qualifications, training and experience, together with the names and addresses of two persons to whom reference can be made, and endorsed "Assistant Architect," must be delivered to the Borough Surveyor, Town Hall, Rochdale, by 14th June, 1956. [2340

AIR MINISTRY Works Designs Branch requires in London and the Provinces ARCHITECTURAL ASSISTANTS experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings.

Salaries up to £850 p.a. (men) and £752 (women).

Starting pay dependent on age, qualifications and experience.

Paid overtime. Long term possibilities with promotion and pensionable prospects, four weeks leave a year. Liability for overseas service. Normally natural born British subjects. Write stating age, qualifications, employment details including type of work done, to any Employment Exchange, quoting Order No. Borough 1000. [2221

LONDON COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

VACANCIES for Architects, Grade III (up to £987), and Architectural Assistants (up to £818), for widespread construction programme which includes houses, blocks of flats, schools of all types, and various public and industrial buildings.—Application forms and particulars from Architect (AR/EK/A/3), The County Hall, S.E.1. (1189). [0006

APPOINTMENTS—contd.

FEDERATION OF RHODESIA AND NYASALAND

VACANCIES: ASISTANT ARCHITECTS AND ARCHITECTURAL DRAUGHTSMEN

FEDERAL PUBLIC WORKS DEPARTMENT

1. ASSISTANT ARCHITECTS.
Applicants, under 30, must hold A.R.I.B.A. or equivalent.
STARTING SALARY: £900 - £1,250 p.a. depending on qualifications and experience on scale rising to £1,600 p.a.

2. ARCHITECTURAL DRAUGHTSMEN.
Applicants, under 35, must have at least 10 years experience in an Architectural drawing office.
STARTING SALARY: £1,170 p.a. on scale £1,170 x 50 — £1,470.

Application forms and further details from the Federal Public Service Attache, Rhodesia House, 429, Strand, London, W.C.2. Closing date 28th May. [2341

COUNTY BOROUGH OF EAST HAM

BOROUGH ENGINEER'S DEPARTMENT

SENIOR ASSISTANT ARCHITECT	Grade IV	£710 - £885
ARCHITECTURAL ASSISTANTS	Grade II	£595 - £675
JUNIOR ARCHITECTURAL ASSISTANTS	Grade I	£530 - £610
QUANTITY SURVEYOR	Grade II	£595 - £675
BONUS SURVEYOR	Grade II	£595 - £675

LONDON Weighting is paid in addition. Salary in excess of the minima may be paid according to qualifications and experience.

Subsistence allowances may be granted over a reasonable period to persons appointed if unable to obtain suitable housing accommodation, necessitating the maintenance of two homes.

Further details and application forms, returnable by 1st June, 1956, from the Town Clerk, Town Hall, East Ham, E.6. [2339

COUNTY BOROUGH OF ROCHDALE

APPLICATIONS are invited for the appointment of a Quantity Surveyor in the Borough Surveyor's Office, Grade IV, £710—£885. Applications will be considered from candidates who are not fully qualified on Grade III, £640—£765. The commencing salary will not necessarily be the minimum of the grade.

The successful candidate will be employed in the Architect's Department, the work of which includes schools and all other types of Corporation buildings with the exception of Housing.

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts, and to passing a medical examination.

Housing accommodation will be provided by the Council in appropriate circumstances.

A scheme for the payment of voluntary overtime is to be introduced.

Canvassing is prohibited and applicants must disclose whether they are related to any member or senior official of the Council.

Applications stating age, qualifications, training and experience, together with the names and addresses of two persons to whom reference can be made, and endorsed "Quantity Surveyor"" must be delivered to the Borough Surveyor, Town Hall, Rochdale, by 10.0 a.m. on Monday, 11th June, 1956.

K. B. MOORE,
Town Clerk.
[2354

RICHARD COSTAIN LTD. have vacancies in their Architects Department for:
ARCHITECTS, with Final R.I.B.A., and
ARCHITECTURAL ASSISTANTS of Intermediate and up to Final R.I.B.A. standard.

Salaries offered will be in proportion to age and experience and applications should be sent to: H. S. SMITH, ESQ., R.I.B.A., 111, Westminster Bridge Road, London, S.E.1. [2344

APPOINTMENTS—contd.

LONDON COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

Vacancies exist for ARCHITECT/PLANNERS (salaries up to £817). Tasks include three-dimensional planning within London's eight major Comprehensive Development Areas (including Stepney/Poplar, the South Bank, and Elephant and Castle) and other Redevelopment Areas.

The work includes the preparation of comprehensive layouts covering all the important areas of new public and private development throughout the County, and covers the whole field of planning technique.

Particulars and application form, returnable by 31st May, from Architect (AR/EK/ATP/2), County Hall, S.E.1. (907). [2342

BEESTON AND STAPLEFORD URBAN DISTRICT COUNCIL

VACANCIES for Architectural Assistants within Grade A.P.A. III (£640 to £765) according to qualifications and experience.

Housing accommodation will be made available if required.

Applications, naming two referees, to the Surveyor, Town Hall, Beeston, Nottingham, by 27th May, 1956.

H. D. JEFFRIES,
Clerk of the Council.
[2350

LONDON ELECTRICITY BOARD

ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for the above position in the Architect's Section of the Chief Engineer's Department in Central London.

Applicants should be studying for or have passed the Intermediate Examination of the R.I.B.A., be capable draughtsmen and have had several years' experience in an Architect's office.

The post is graded under Schedule 'D' of the National Joint Board agreement as Grade 5—£735 to £840 per annum, inclusive of London Allowance.

Application forms from Personnel Officer, 46 New Broad St., London, E.C.2. Please quote ref.: PER/2156/AA. [2353

TENDERS

COUNTY BOROUGH OF BRIGHTON

Tenders are invited for:
ALTERATIONS TO CONVERT "DEVONIA," LONDON ROAD, BRIGHTON, INTO A HOME FOR 26 AGED PERSONS AND TO COMBINE WITH "HERONS COURT" HOME FOR AGED BLIND PERSONS.

BILLS of Quantities and Forms of Tender may be obtained from the Borough Surveyor, Engineer & Planning Officer, 26-30, Kings Road, Brighton, on or after 12 noon, 14th May, 1956, on receipt of a returnable deposit of £2 2s. Tenders are to be delivered to the Town Clerk not later than 10 a.m. on Monday, 4th June, 1956. [2332

TENDERS FOR THE SUPPLY OF TELEGRAPH POLES

to the

GENERAL POST OFFICE

THE Postmaster General invites offers for the supply of Telegraph Poles from the following home grown species of timber: Norway Spruce (not exceeding 28 ft in length), Scots Pine, Larch, Douglas Fir and Weymouth Pine.

Sizes required are 18 ft - 22 ft Extra Light, 16 ft - 32 ft Light and 24 ft - 34 ft Medium.

For particulars write The Director of Contracts, Post Office Contracts Department (B111), Telephone House, Temple Avenue, London, E.C.4. [2333

TENDERS—contd.

ASHFORD (KENT) URBAN DISTRICT COUNCIL.

TENDERS are invited for the erection of:

70 DWELLINGS AT BEAVER GREEN FARM—Section II. The work comprises two-storey houses in terraces and bungalows, which are of brick construction.

Bill of Quantities and Forms of Tender may be obtained from the Surveyor to the Council, 5 North Street, Ashford, Kent, upon receipt of a deposit of £3 3s. 0d. (Returnable upon receipt of a bona-fide tender) by June 1st, 1956.

Sealed tenders in envelopes provided endorsed "Beaver Green Housing—Section II" are to be delivered to the undersigned by not later than the 22nd June, 1956.

J. SUDLOW,
Clerk to the Council.

The Cedars,
Church Road,
Ashford, Kent.
3rd May, 1956. [2346

MISCELLANEOUS SECTION

RATE: 1/6d. per line, minimum 3/-, average line 6 words. Each paragraph charged separately.

BOX NOS. add 2 words plus 1/- for registration and forwarding replies which should be addressed c/o "The Architect & Building News," Dorset House, Stamford Street, London, S.E.1.

PRESS DAY, Monday. Remittances payable to Iliffe & Sons Ltd., Dorset House, Stamford Street, London, S.E.1.

No responsibility accepted for errors.

ARCHITECTURAL APPOINTMENTS VACANT

ARCHITECTURAL Assistant required Intermediate standard to work in close association with partner, small office, Harley Street, W.1. — Phone LANgham 7503, or write Box 1835, c/o A. & B.N. [2351

TWO enthusiastic Junior Assistants required in busy contemporary W.1 office. At least two years' office experience and good draughtsmanship essential. Five-day week. Salary £400-£550 according to ability.—Phone Hunter 0451 or write David Stern, 24 Gloucester Place, W.1. [2352

ARCHITECTURAL Assistant for temporary appointment of minimum 12 months. Intermediate standard R.I.B.A. essential, A.R.I.B.A. desirable. Five-day week. Salary according to qualifications and experience.—Apply to Personnel Advisor, Spicers Limited, 19 New Bridge Street, E.C.4. [2349

ARCHITECTURAL Assistant required (R.I.B.A. Inter, or beyond), commencing salary £650 to £750 according to qualifications.—Details of training, experience and age please to W. C. Mangan, 2 Ribblesdale Place, Preston, Lancs. [2325

ARCHITECTS Assistant required for varied work in small private office, Western outskirts of London. Some office experience desirable but not essential. Write, stating age and experience, Box 1810, c/o A. & B. N. [2340

EXPERIENCED Architectural Assistant required. Salary £800 to £900 p.a. Interesting work.—Apply, giving full particulars, to Box 1811, c/o A. & B. N. [2345

ASSISTANT with previous experience, wanted in small efficient office. Excellent opportunity for competent man.—Telephone: Oliver Steer, FOO 3166. [2337

ARCHITECTURAL Assistants with three years' training, experience in Architect's Office, of Inter. R.I.B.A. Standard and with a live interest in Historic Architecture required by MINISTRY OF WORKS' ANCIENT MONUMENTS DRAWING OFFICE, LONDON. Applicants must have surveying experience and a sound knowledge of construction. Work involves Surveying and preservation of Ancient Monuments and Historic Buildings.

Pay between £489 and £761 per annum, according to age and experience. Prospects of promotion and permanency.

State age, training and experience to Chief Architect, Ministry of Works (C), Abell House, London, S.W.1. [2336

ARCHITECTURAL APPOINTMENTS VACANT—contd.

ARCHITECTURAL Assistant required by UGANDA GOVERNMENT for construction of new hospital, on contract for tour of 30-36 months in first instance. COMMENCING SALARY ACCORDING TO EXPERIENCE, in scale (including Inducement Pay and present temporary allowance of 10% of salary) £772 rising to £1,280 a year. Gratuity at rate of 13½% of total substantive salary drawn. Free passages. Liberal leave on full salary. Outfit allowance £30. Candidates should be 25 to 40 years, must be quick and accurate draughtsmen with sound knowledge of building construction. Experience of building in tropics desirable and experience of modern hospital work an advantage.—Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2B/41520/AF. [2305

ARCHITECTURAL Assistants up to Final and Intermediate Standard, required for work on home and tropical buildings. Salary according to experience. — Apply: E. J. D. Mansfield, A.R.I.B.A., Sir William Halcrow & Partners, Stanhope House, 47, Park Lane, London, W.1. [2334

COVELL & MATTHEWS urgently require several architectural assistants — salary range £650 - £850. Work is varied and interesting including hospitals, churches, housing. Five-day week. — Apply IN WRITING to: 34, Sackville Street, Piccadilly, W.1. [2293

ASSISTANT required in busy practice in West End, in early twenties, about Intermediate R.I.B.A. Standard. Excellent opportunities for gaining all-round experience.—Box No. 1685, c/o A. & B. N. [1036

ISLINGTON Borough Council require a Chief Technical Assistant (Surveyor). Salary A.P.T. IV (£710 x 5 of £35 to £885 p.a.), plus London Weighting of £20 or £30 according to age. The appointment is permanent and the nature of the work is that covered by the Maintenance Section of a Local Authority Housing Department. Candidates should have passed the final examination of the R.I.C.S. or equivalent examination and must have had experience in the repair, maintenance and improvement of dwellings.—Application forms and further particulars may be obtained from the Housing Estates Manager, 220-225, Upper Street, N.1. Closing date 28th May, 1956. [2308

PRIVATE practice office has vacancy for Assistant willing to take control of jobs. Work includes domestic, ecclesiastical, commercial and industrial, modern and traditional. Urgent.—Send details age, experience and salary suggested to: Forsyth Lawson, Cunningham & Partners, 30, Horse Fair, Banbury, Oxon. [0094

QUALIFIED Architectural Assistant required. — Write full particulars to T. Mitchell & Partners, 20, Bedford Square, W.C.1. [2310

THE BRITISH THOMSON-HOUSTON CO. LTD., require Architectural Assistants: Intermediate or R.I.B.A. Final standard, preferably with previous experience on projects of an industrial nature, for their architect office at Rugby.—Applications, stating age and full particulars to: G. C. Knight, Esq., A.R.I.B.A., Works Architect, The British Thomson-Houston Co. Ltd., Rugby. [2307

ARCHITECT'S co-partnership require Qualified Assistant with experience. — Write: 44, Charlotte Street, London, W.1., or telephone Langham 5791. [0002

SITUATION WANTED

MANAGER, experienced, desires post. Demolition, excavations. No contract too large. Willing to travel; distance no object. — Box 1486, c/o A. & B. N. [2289

SERVICES OFFERED

GENERAL Architectural Assistance, part-time or by arrangement, given by experienced qualified Architect to the profession, with good references. London area only.—Box 1614, c/o A. & B. N.

WORK REQUIRED

FRENCH polishing, all types. Best work by experienced men at reasonable price. Estimates free. Satisfaction assured. — A. W. Marler, 10, Gillium Close, East Barnet. ENT. 6437. [2183

FOR SALE

"CAN-TILE" liquid floor coating for canteens, hospitals, ships, factories, toilets. Cost 20% of lino. Write: Dohm, Ltd., 167, Victoria Street, London, S.W.1. [2259

JOINTLESS composition flooring in attractive colour range—quotations free.—Full particulars from the Liotex Asbestos Flooring Co. Ltd., 3, Corbetts Passage, London, S.E.15. (Dept. A). Bermondsey 4341-2-3. [0522

ALL hardwood mouldings, plain and embossed, embossed ornaments and dowels. Send for catalogue and today's lowest trade prices.—Dareve's Moulding Mills, Ltd., 66, Pownall Road, Dalston, E.8. Clissold 1543/4. [0142

HARDCORE Walling Stone and Pitching delivered or collected from quarries at Fish Hill, near Broadway, Worcs., and Hornsleasow, near Bourton-on-the-Hill, Glos. — Apply to Baillie, Brind & Co., Ltd., Prudential Chambers, Bilbury, Oxon. [0082

RECONDITIONED ex-Army Huts & Manufactured Buildings. Timber, Asbestos, Nissen Type, Hall Type, etc. All sizes and prices. — Write, call or telephone, Universal Supplies (Belvedere) Ltd., Crabtree Manorway, Belvedere, Kent. Erith 2948 [0005

SEARCH 3in. "Mud Marvel" Lift and Force Portable MUD PUMPS, Air-cooled Lister Diesel. Originally manufactured for our hire fleet, are now available for general sales. — WM. G. SEARCH, LTD., Whitehall Road, Leeds. Tel.: 639081. [2227

ACCOMMODATION

HARLEY Street, Nr. Cavendish Square, W.1. Newly decorated large office. Switchboard and reception facilities available. £250 p.a. inclusive of rates. F. & F. £300.—Box 1812 c/o A. & B.N. [2347

BUSINESS OPPORTUNITIES

WORK WANTED.

ERECTORS. Skilled gangs, each with foreman, seasonally employed from mid-April to mid-August, available for hire at other times. Short or long periods.—JOHN EDGINGTON & CO., LTD., 108 Old Kent Road, London, S.E.1. RODney 3801. [2348

PLANT FOR HIRE

FOR hire, Ruston - Bucyrus EXCAVATORS 36RB, 33RB, 22RB and 19RBs. Any equipment. — A. E. Farr, Ltd., Westbury, Wilts. Tel. 356. [0143

MISCELLANEOUS

P.H. Plumbing and Heating. — 90, Albert Street, London, N.W.1. GUL. 7422. TUL. 4579. [2230

JOINERS' NAME STAMPS. For marking wood or steel in ¼ in letters. 1s. per letter, post paid. List for Branding Irons, Stencils. — SWALLOWS, 56, Garden Street, Sheffield. [2338

TUITION, BOOKS, ETC.

"ARCHITECTS' Detail Sheets" First Series. Edited by Edward D. Mills, F.R.I.B.A. Provides specially prepared scale detail drawings and photographs showing how contemporary British and foreign designers have combined the twin essentials of good construction and satisfactory appearance. The selected examples cover a wide range of problems from windows and door openings to staircases, fireplaces and internal fittings and furniture. Contains 96 reference sheets in all. The second series consists of a further 96 scale detail drawings featuring balconies, shop fronts, and wall details, etc., 25/- net each from all booksellers. By post 26/5d. from The Publishing Dept., Dorset House, Stamford St., London, S.E.1.

INDEX TO ADVERTISERS

Official Notices, Tenders, Auctions, Legal and Miscellaneous Appointments on pages 52 and 53.

Abix (Metal Industries) Ltd. .. —
Adam & Lane & Neve Ltd. .. —
Adamsez Ltd. .. —
Adams Hydraulics Ltd. .. —
Adams, Robert (Victor) Ltd. .. 48
Aerialite Ltd. .. —
Aldam, Hill, E. & Co. Ltd. .. —
Allied Brick & Tile Works Ltd. —
Ames Crosta Mills & Co. Ltd. —
Ancorite Ltd. .. —
Anderman & Co. Ltd. .. 48
Anderson, C. F., & Son Ltd. .. —
Armstrong Cork Co. Ltd. .. —
Associated Metal Works (Glasgow) Ltd. .. 41
Atlas Preservative Co. Ltd. .. —
Atlas Stone Co. Ltd. .. —
Auto Door Closer Co. .. —
Avery, J., & Co. Ltd. .. 27

Baldwin, Son, & Co. Ltd. .. —
Barry, Ostlere & Shepherd Ltd. —
Bath & Portland Stone Firms —
Batley, E., Ltd. .. 46
Baume & Co. .. —
Bawn, W. B., & Co. Ltd. .. 49
Bawn's Pressings Ltd. .. —
Baxendale & Co. Ltd. .. —
Bell & Webster Ltd. .. —
Berger, Lewis (Great Britain) Ltd. .. —
Berry Wiggins Ltd. .. 48
Beynon, T. .. —
Black Sheathing Felt Campaign —
Blackwells & National Roofings Ltd. .. —
Blackwell, Wyckham, Ltd. .. 39
Blakey Cabinet & Metal Works Ltd., The .. —
Blundell, Spence & Co. Ltd. .. —
Bolton Gates Co. Ltd. .. —
Boot, H., & Sons Ltd. .. 21
Bostwick Gate & Shutter Co. Ltd. .. —
Bourner, F. H., & Co. (Engineers) Ltd. .. —
Bowater Sales Co. Ltd. .. —
Braby, F., & Co. Ltd. .. 19
Bradford, F., & Co. Ltd. .. —
Brady, G., & Co. Ltd. .. I.F.C.
Braim-arc Ltd. .. —
Bratt Colbran Ltd. .. —
Briggs, Wm., & Sons Ltd. .. 15
British Aluminium Co. Ltd. .. —
British Bitumen Emulsions Ltd. —
British Columbia Lumber Manufacturers' Association .. —
British Constructional Steelwork Association .. —
British Ebonite Co. Ltd. .. —
British Electrical Development Association .. —
British Hermeseal Ltd. .. 25
British Mouldex Ltd. .. 35
British Paints Co. .. —
British Plaster Board (Manufacturing) Ltd. .. —
British Plumber Ltd. .. O.B.C.
British Reinforced Concrete .. 45
British Replin Ltd. .. 45
British Steel Constructions Group of Companies .. 4
British Titan Products Co. Ltd. 30
Brockhouse Steel Structures Ltd. —
Bryce White & Co. Ltd. .. —
Burn Bros. (London) .. 24

Cafferata & Co. Ltd. .. 13
Callow Rock Lime Co. Ltd. The .. —
Carborundum Ltd. .. 34
Canada, Government of .. —
Cantic Switches Ltd. .. —
C. & P. Development Ltd. .. —
Cape Asbestos Co. Ltd., The .. —
Cellon Ltd. .. 39
Celotex Ltd. .. 9
Cement Marketing Co. Ltd. .. —
Central Electricity Authority .. —
Chamberlin Weatherstrips Ltd. —
Chase Products Engineering Ltd. —
Chatwood-Milner Ltd. .. —
Cheetham, A. J., Ltd. .. —
Cheetham, H. & Co. .. —
Chesterman, J., & Co. Ltd. .. —
Chilton Steel Ltd. .. —
Churchouse, C. M., Ltd. .. —
Clarke Ellard Eng. Co. Ltd. .. —
Clang Ltd. .. —
Claughton Bros. Ltd. .. —
Clement Bros. Haslemere Ltd. —
Clyde Structural Iron Co. Ltd. —
Coal Utilisation Council .. —
Colthurst Symons & Co. Ltd. —
Compactom Ltd. .. 32

Conex-Terna Ltd. .. —
Costain, Richard, Ltd. .. I.B.C.
Cox & Co. (Watford) Ltd. .. —
Cox, William J., Ltd. .. 47
Cozens Ventilators Ltd. .. —
Crittall Manufacturing Co. Ltd. —
Cullum, H. W., Co. Ltd. .. 38
Curfew Doors & Shutters Ltd. —
Curwen & Newbury Ltd. .. —
Cutting, R. C. .. 39

Dale, John, Ltd. .. —
Dalton, Ballard & Co. Ltd. .. 39
Dennison Kett & Co. Ltd. .. —
Denny, Mott & Dickson Ltd. .. —
Denton Edwards Paint Ltd. .. —
Dexion Ltd. .. —
Docker Bros. .. —
Dowson & Mason Ltd. .. —
Dunlop & Ranken Ltd. .. 39
Durasteel Ltd. .. 46
Duresco Products Ltd. .. —
Dussek Bitumen & Taroleum Ltd. .. —
Dussek Bros., & Co. Ltd. .. —

Economic House Drainage Rpg. Co. Ltd., The .. 40
Edison Swan Electric Co. Ltd., The .. —
Edelman, J. .. —
Electrolux Ltd. .. —
Elliott, Samuel, & Sons (Reading) Ltd. .. —
Ellis School of Architecture .. 39
Empire Stone Co. Ltd. .. —
Engers & Rolfe Ltd. .. 39
En Tout Cas, Co. Ltd. .. —
Esavian Doors .. —
Expanded Metal Co. Ltd. .. 6
Expandite Ltd. .. —

Faculty of Architects and Surveyors, The .. —
Falkirk Iron Co. Ltd., The .. —
Farmer, S. W. & Son Ltd. .. —
Ferodo Ltd. .. —
Ferranti Ltd. .. —
Fibreglass Ltd. .. —
Finch, B., & Co. Ltd. .. —
Finlock Gutters Ltd. .. —
Flavel, S., & Co. Ltd. .. —
Flexaire Ltd. .. —
Flexo Plywood Industries Ltd. —
Franki Compressed Pile Co. Ltd., The .. —
Freeman, Joseph, Sons & Co. Ltd. .. 27 & 29
French, Thos., & Sons Ltd. .. —

Gardner, J., & Co. Ltd. .. —
Gas Council .. —
Gaskell & Chambers Ltd. .. —
General Electric Co. Ltd., The 5 & 45
Gimson & Co. (Leicester) Ltd. 41
Glazed & Floor Tile Manufacturers' Association .. 7
Gliksten, J., & Co. Ltd. .. —
Gold Seal .. —
Grange-Cameion Iron Co. .. —
Granwood Flooring Co. Ltd. .. —
Gray, J. W., & Co. Ltd. .. 41
Green & Vardy Ltd. .. —
Greenwood's & Airvac Ventilating Co. Ltd. .. 37
Grundy, J., Ltd. .. 43
Gulf Radiators Ltd. .. —
Gummers Ltd. .. 26

Hale & Hale Ltd. .. 50
Hall, Harding, Ltd. .. —
Hall, J. & E., Ltd. .. —
Hall & Kay Ltd. .. —
Hammer, Geo. M., & Co. Ltd. —
Hangers Paints Ltd. .. —
Harvey, G. A., & Co. Ltd. .. 51
Haskins .. —
Hathernware Ltd. .. 40
Henderson, P. C., Ltd. .. —
Henley's W. T., Telegraph Works, Co. Ltd. .. —
Hewitt, F. & D. M., Ltd. .. 44
Heywood, W. H., & Co. Ltd. —
Hilger & Watts Ltd. .. —
Hill, Aldam, E., & Co. Ltd. .. —
Hills, F., & Son Ltd. .. —
Hills (West Bromwich) Ltd. .. —
Holophane Ltd. .. —
Holophast Ltd. .. —
Home Fittings (G.B.) Ltd. .. 42
Hope, Henry, & Sons Ltd. .. 29
Hotchkiss Engineers Ltd. .. 28
Hunter, Douglas Holland (Luxaflex) .. —
Humber Slate Work Co. .. —
Hydran Products Ltd. .. —

Ibstock Brick & Tile Co. Ltd. —
Iliffe & Sons Ltd. .. —
Imperial Chemical Industries Ltd. 23
International Correspondence School .. —
Ironite Ltd. .. —

Jablo Plastic Industries Ltd .. —
Janes, H. C., Ltd. .. 16
Johnson Bros. Ltd. .. —
Johnson's Reinforced Concrete —
Jones, T. C., & Co. Ltd. .. —
Jones & Broadbent Ltd. .. —

Kay & Co. (Engineers) Ltd. .. —
Kay, Frdk. (Engineering) Ltd. —
Kerner-Greenwood & Co. Ltd. —
King, J. A., & Co. Ltd. .. 26
Kings Langley Eng. Co. Ltd. 47
Klinger, Richard, Ltd. .. —

Lacrinoid Products Ltd. .. —
Laing, John, & Sons Ltd. .. —
Lambhill Ironworks Ltd. .. —
Langham Export Co. Ltd. .. —
Lead Sheet & Pipe Council .. 10
Le Bas Tube Co. Ltd. .. —
Libraco Ltd. .. 50
Light Steelwork (1925) Ltd. .. —
Lindsay's Paddington Iron Works (1948) Ltd. .. —
Lion Foundry Co. Ltd. .. —
Liquitile Supply Co. .. 42
Logical Fuel Storage Units .. 16
London Electric Firm Ltd. .. —
London Brick Co. Ltd. .. —
Lumenated Ceilings Ltd. .. —
Luxfer Ltd. .. —

MacAndrews & Forbes Ltd. .. —
Magnet Timber Ltd. .. —
Manger, J., & Son Ltd. .. 43
Maple & Co. Ltd. .. —
Margolis, M. .. 40
Margolis, S. .. 44
Marley Tile Co. Ltd., The .. 33
Marryat & Scott Ltd. .. —
Masonite Ltd. .. —
McCarthy, M., & Sons Ltd. .. —
Mather & Platt Ltd. .. —
Mealing Bros. Ltd. .. —
Medway Building & Supplies Ltd. .. —
Merchant Adventurers Ltd. .. —
Minton Hollins Ltd. .. —
Morris Singer Co. .. 36
Mullen & Lumsden Ltd. .. 40
Murex Welding Process Ltd. .. —

Nairn, Michael, & Co. Ltd. .. —
National Association of Master Asphalters .. —
National Association of Putty Manufacturers, The .. —
National Coal Board .. 12
New Day Electrical Accessories Ltd. .. 51
Newman, Wm., & Sons Ltd. .. —
Nikex .. —
Noelite Ltd. .. 46
Normid Ltd. .. 48
Northarc Organisation, The .. 50
Norwood Steel Equipment (London) Ltd. .. —
Nu-Swift Ltd. .. —

Odoni, A. A., & Co. Ltd. .. 44

Paramount Asphalt & Flooring Co. .. —
Parker, Winder & Achurch Ltd —
Parmiter, Hope & Sugden Ltd. —
Parsons, Thos., & Sons Ltd. .. 46
Partridge Wilson & Co. Ltd. .. —
Penfold Fencing Eng. Ltd. .. —
Permafence Ltd. .. —
Permanite Ltd. .. 1
Petradene Ltd. .. —
Philips Electrical Ltd. .. —
Phoenix Rubber Co. Ltd. .. —
Phoenix Timber Co. Ltd., The —
Pilkington Bros. Ltd. .. 31
Pilkington Tiles Ltd. .. —
Pollard, E., & Co. Ltd. .. —
Portable Concrete Buildings Ltd. 42
Potter, F. W., & Soar, Ltd. .. 50
Protim Ltd. .. —
Pyrotenax Ltd. .. —

Raines & Porter Ltd. .. —
Rainham Timber Eng. Co. Ltd. —
Range Boilers Ltd. .. —
Rapid Floor Co. Ltd. .. —
Rawlings Bros. Ltd. .. —
Redpath Brown .. —
Reliable Plywood Co. Ltd. .. —
Reynolds, H. L., Ltd. .. —
Richardson & Starling Ltd. .. —
Ringmer Building Works Ltd. .. —
R.I.W. Protective Products Co. Ltd. .. —
Rolyat Tank Co. Ltd. .. 32
Rubber Improvements Ltd. .. —
Ruberoid Co. Ltd. .. —

Sadd, John, & Sons Ltd. .. —
Salopian Engineers Ltd. .. —
Sanders, Wm., & Co. (Wednesbury) Ltd. .. —
Sankey, J. H., & Son Ltd. .. —
Seaboard Lumber Sales Co. Ltd. .. 2 & 3
Sealanco (St. Helens) Ltd. .. —
Sealdraught Ltd. .. —
Semtex Ltd. .. —
Schaverien Sheet Metal & Engineering Co. Ltd. .. —
Shutter Contractors Ltd. .. —
Siegwart Floor Co. Ltd. .. —
Small & Parkes Ltd. .. —
Smith, Samuel, & Sons Ltd. .. —
Smith, Thomas, & Sons Ltd. .. —
Smith's Fireproof Floors Ltd. .. —
Sohigmun Ltd. .. —
Sommerfields Ltd. .. —
Soundproof Construction .. —
Staedtler, J. S., Ltd. .. —
Spencers .. —
Stainless Steel Sink Co. Ltd., The —
Standard Patent Glazing Co. Ltd., The .. —
Stanley, W. F., & Co. Ltd. .. —
SteelBrac Ltd. .. —
Steel Radiators Ltd. .. —
Steicon (Industrial Floors) Ltd. —
Steven, A. & P., Ltd. .. —
Steventon, J., & Sons Ltd. .. —
Stillite Products Ltd. .. —
Stramit Boards Ltd. .. 14
Stic B Paints Ltd. .. —
Stuart's Granolithic Co. Ltd. —
Sugg, Wm., & Co. Ltd. .. 11
Sun Insurance Office Ltd. .. —
Sundeala Board Co. Ltd. .. —
Sussex Cement & Concrete Products .. —
Surfex Flooring Co. .. 50
Synchronome Co. Ltd., The .. —
Szerelmey .. —

Tabula Chalkboards Ltd. .. 24
Tarmac Ltd., Vinculum Dept. .. 49
Taylor Rustless Fittings Co. Ltd. —
Teleflex Products Ltd. .. —
Temperature Ltd. .. —
Templex Holdings Ltd. .. 50
Tentest Fibre Board Co. Ltd. .. 17
Thames Plywood Manufacturers Ltd. .. —
Thermocontrol Installations Co. Ltd. .. 26
Thermacoust Ltd. .. 22
Thom, J., Ltd. .. —
Thompson, John, Beacon Windows Ltd. .. 8
Thorn Electrical Industries Ltd. —
Thorn, J., & Sons Ltd. .. —
Thornton, William, & Sons Ltd. 40
Thorp, J. B. .. —
Timber Development Association —
Tretol Ltd. .. —
Troughton & Young (Lighting) Ltd. .. —
True Flue Ltd. .. —
Turner, Chas., & Son Ltd. .. —
Turners Asbestos Cement Co. Ltd. .. —
Twintest Design Service .. —
Tyrol Sales Ltd. .. —

Unique Balance Co. Ltd. .. —
United Merchants Ltd. .. —
United Paint Co. Ltd. .. —
United Steel Companies Ltd. .. 18

Veitchi Company Ltd., The .. —
Velux Co. Ltd. .. 28
Versatile Fittings Ltd. .. —
Vulcanite Ltd. .. —

Ward, Thos. W., Ltd. .. 39
Wates Ltd. .. —
Weatherfoil Heating System Ltd. —
Wednesbury Tube Co. Ltd. .. —
West's Piling & Construction Co. Ltd. .. —
Williams & Williams Ltd. .. 20
Wood, Edward, & Co. Ltd. .. —

Yale & Towne Manufacturing —
Yelson Ltd. .. —
Yorkshire Copper Works Ltd., The .. —
Youngman, W. C., Ltd. .. 22

If no page number is quoted, please see previous issues.

Printed in Great Britain for the publishers, ILIFFE AND SONS LTD., Dorset House, London, S.E.1, by MERRITT AND HATCHER LTD., High Wycombe and London.

THURROCK
TECHNICAL COLLEGE
for
ESSEX COUNTY COUNCIL

Architect:
H. Conolly, Esq., F.R.I.B.A., County Architect.

THURROCK TECHNICAL COLLEGE, recently completed by Richard Costain Limited, is contemporary in design and decorated in a variety of pastel shades. It has been equipped to provide training in mechanical and electrical engineering, and for the various craft courses of the City and Guilds of London Institute. The buildings are in steel frame construction with brick infilling panels and include a 2-storey main laboratory block, boiler house and caretaker's bungalow. Flooring and roofing were supplied by Stahlton Floors Limited.

Richard
COSTAIN
Limited

BUILDING AND CIVIL ENGINEERING CONTRACTORS

AVENUE LODGE, 2 PALMERS AVENUE, GRAYS, ESSEX

Head Office: 111 WESTMINSTER BRIDGE ROAD, LONDON, S.E.1
Telephone: WATerloo 4977

Within the slab...

Welded Fabric

the ideal reinforcement for all types of slab construction for roads or floors whether on the ground or suspended. BRC fabric is a welded steel wire mesh supplied in sheets or rolls.

THE BRITISH REINFORCED CONCRETE ENGINEERING CO. LTD., STAFFORD

London, Birmingham, Bristol, Leeds, Leicester, Liverpool, Manchester, Newcastle, Cardiff, Glasgow, Dublin, Belfast

Export Dept., 53 Grosvenor St., London, W.1

M·W·779